

The use of epistemic stance markers by Japanese learners of English: A corpus-based approach

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Declaration

I confirm that the work presented in this thesis is my own. Where information has been derived from other sources, I confirm that this has been indicated in the thesis.

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Abstract

This doctoral thesis investigates the use of epistemic stance markers in spoken and written contexts by Japanese learners of English (JLE) in comparison with native speakers of English (NS). The target epistemic devices belong to three word classes: verbs such as *I think* and *I guess*; adverbs such as *maybe* and *definitely*; and modal verbs such as *may* and *might*. These markers are used not only to express speakers' or writers' certainty or uncertainty about statements but also to convey their judgement about propositions expressed, based on their beliefs and thoughts. Additionally, these devices play an important role in interpersonal communication, by mitigating the strength of disagreements, contrary opinions, and suggestions.

The results of this research are triangulated by different data types: spoken and written language, lower to advanced proficiency levels, and task types such as dialogue or monologue in language assessments. Findings concur with previous studies in that JLE rely on adverbs and verbs over modal verbs to realise epistemic modality. As proficiency level rises, a greater variety of epistemic devices are used, and their frequency of occurrence also increases. However, findings also indicate a non-linear and complex developmental pattern by JLE due to the multifunctionality of epistemic devices. In addition, analysis of the use of epistemic devices per task type indicates that JLE use these forms in description tasks to express uncertainty, whereas NS utilise them more in interactive tasks such as role-playing. This result indicates that NS use epistemic stance markers more in an interpersonal way, where these devices are used to hedge their assertions or to mitigate requests. These findings underscore the importance of exposing learners to the wide range of functions that epistemic devices can serve in effective communication.

Impact Statement

This thesis investigates the use of epistemic stance markers by Japanese learners of English (JLE). Epistemic stance markers, such as verbs like *I think* or *I believe*, adverbs like *maybe* and *definitely*, and modal verbs like *may*, are used not only to express certainty or uncertainty but also to convey speakers' or writers' beliefs, thoughts, and feelings. Additionally, these devices play an important role in interpersonal communication, by mitigating the strength of disagreements, contrary opinions, and suggestions. The use of these markers can indicate how second language learners understand pragmatic competence, including linguistic knowledge about how these devices are used and social skills to understand contexts, such as considering power differences between interlocutors. Therefore, using epistemic devices is vital for English language users regardless of their first language.

The research method of this study is unique as the results are triangulated by different data types: spoken and written language, lower to advanced proficiency levels, and task types such as dialogue or monologue in language assessments. To conduct this approach, a mixed-effects model, which is a statistically robust model, is used. This method can be applicable for future research in searching for further factors that may affect the learners' choice of these epistemic stance markers. The results are analysed both quantitatively, for a large-scale overview of usage patterns at different levels and in different contexts, and qualitatively, for a more fine-grained insight into specific features affecting usage. The broad scope of the analyses means that the findings are relevant to a range of practitioners in the field of language learning on both a practical and theoretical level: instructors, material developers, curriculum designers, and researchers in language pedagogy and testing, with a particular focus on second language pragmatic competence.

The main findings of this study have practical applications for language teachers and learners outside the university academic context. This study provides numerous examples of written and spoken uses by various proficiency levels of JLE and native speakers of English (NS) in realising epistemic modality. The results indicate that JLE generally use epistemic devices more frequently as proficiency levels rise, and NS use these devices more frequently overall, which aligns with previous studies. Thus, teachers and learners can refer to these uses at relevant proficiency levels or to NS uses of epistemic devices not just to stall for time or express uncertainty, but to enhance interpersonal communication. These findings demonstrate the multifunctionality of epistemic stance markers and their wide range of functions. Moreover, the qualitative analysis can serve as a starting point for designing targeted learning materials that are appropriate to students' levels and task objectives.

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Chapter 1 Introduction

1.1 Background

This doctoral thesis is a corpus-based study on the use of epistemic stance markers in English in written and spoken contexts by Japanese learners of English (JLE). Epistemic devices such as *I think*, *maybe*, and *definitely* function to strengthen or weaken the contents an individual conveys based on their thoughts. However, these forms are used not only to convey certainty or uncertainty but also to make requests or statements sound less forceful, for example, when asking for something, e.g., *Could you maybe...?* This thesis explores the use of these epistemic devices by JLE, and how they are used differently among various proficiency groups of JLE and between JLE and native speakers of English. It examines the use of these markers in different modes of communication, such as speaking and writing, and whether their use is influenced by task types, such as dialogue or monologue in language assessments. In this introductory chapter, to begin with, epistemic modality is defined and the reason of importance of utilising them in the contexts of speaking and writing is demonstrated.

Coates (1995) defines epistemic modality as the meaning expressed by linguistic forms “concerned with the speaker’s assumptions, or assessment of possibilities, and, in most cases, it indicates the speaker’s confidence or lack of confidence in the truth of the proposition expressed” (p. 55). Similarly, Lyons (1977) defines it as “the speaker’s opinion or attitude toward a proposition that the sentence expresses or the situation that the proposition describes” (p. 452). These definitions suggest that epistemic devices are used to show speakers or writers’ certainty or uncertainty about their proposition. For instance, in (1) below, the situation is described with the phrase *I think* as the speaker is not certain whether *they have improved* is a fact. In other words, another person may judge they have not, or may assess the degree of amelioration differently. In (2), an adverb *probably* is used because the speaker is not sure of how long the person has worked for the company although stating 13 years. In (3), both *I think* and *might* are epistemic devices. Using *might*, the assertion of the main clause is weakened or made less direct compared with *you are wrong*. Additionally, *I think* functions as the same outside of the main clause in this example and it is often inserted in the middle of the sentence or used in the end.

(1) Since last year *I think* they have improved.

(2) He has *probably* been with his company for 13 years and in his present job for four.

(3) *I think* you *might* be wrong.

Biber et al. (1999, pp. 972-973 emphasis added)

The role of epistemic devices, as demonstrated in these examples, is crucial for differentiating between fact and subjectivity. Essentially, in the absence of such devices, speakers or writers would find themselves unable to adequately express certainty or uncertainty regarding their thoughts or feelings.

In addition to these usages to convey subjective (un)certainty, epistemic devices are used intersubjectively (Gablasova et al., 2017; Hunston & Thompson, 2000; Kärkkäinen, 2006). Speakers or writers use epistemic markers “not only to express speakers’ position (certainty or uncertainty) towards a statement, but also to express speakers’ position towards other interlocutors (e.g. to manage interpersonal relationships or to downplay strong assertions)” (Gablasova & Brezina, 2015, p. 117). This is another important function as speakers or writers not only convey their propositional content but

a range of subjective meanings reflecting our value systems, identity, confidence and so forth by using epistemic forms (Gablasova et al., 2017). For example, in (4), one of the epistemic forms *I think* functions as a device to show a lower degree of certainty and a hedging device.

- (4) I like graffiti it's art=*I think* it's art it's just a different kind of art which is not very understood by society nowadays (Gablasova et al., 2017, p. 614).

In this example, the speaker modifies the utterance, which was most likely *it's art* by adding *I think*, which works as an epistemic device to indicate a lower degree of certainty. It also acts as a hedging device, mitigating the impact of a potentially face-threatening move: a bare assertion could be considered inappropriate when it is made from a speaker in a lower to a speaker in a higher position (Chojnicka, 2015; Gablasova et al., 2017). This can be applicable to example (3) above, which is also a face-threatening act being mitigated to manage the interpersonal relationship. To give another example, in academic writing, epistemic modality allows academics to take a rhetorical stance, adjusting their statements by controlling the degree of certainty given to their claims. Without epistemic devices, their statement may become too direct beyond their intention. Epistemic modality is thus vital in academic discourse, as it is a “central rhetorical means of gaining communal adherence to knowledge claims” (Hyland, 1994). Similarly, these adjustments are critical outside academia, such as at work (e.g., reporting news, giving work-related information, and so forth) or in language tests, which require awareness of kinds of task type.

Employing epistemic forms is vital regardless of first language (L1) and second language (L2) users. However, previous studies demonstrate the occurrence of these epistemic stance markers by JLE is less frequent in both spoken and written modes than NS (Ishikawa, 2015; Nakayama, 2021). Because it is demanding to process complex linguistic choices within time constraints, it is challenging for JLE to use epistemic forms in speaking. In writing, they use a more limited scope of epistemic forms compared with L1 English users (Fordyce, 2009).

In work environments outside the classroom, my own working experience at an international company has taught me that the effective use of epistemic devices can facilitate smoother communication in speech acts such as requests, apologies, and advice. These interactions often occur across various levels of social distance and power hierarchies, including those between employers and employees, as well as between service providers and clients. Furthermore, these dynamics can vary significantly based on factors such as the frequency of business interactions and the scale of transactions, whether they involve regular clients or first-time customers, and whether the deals are large or small. All of these backgrounds can influence the use of epistemic markers.

However, use of epistemic markers is not widely taught in Japan. Drawing on my experiences teaching English in language classrooms, one possible reason is that in an English as a Foreign Language (EFL) context like Japan, many students learn English through studying for proficiency tests such as the Test of English for International Communication (TOEIC, Educational Testing Service) or the EIKEN Test in Practical English Proficiency (EIKEN, Eiken Foundation of Japan). Within the frameworks of these exams, understanding epistemic devices is given less priority, as learning the functions of these devices or grasping their nuanced differences does not necessarily contribute to achieving higher scores in these high-stakes assessments. Consequently, the use of epistemic forms, particularly in interpersonal contexts, is less commonly observed in the language use of JLE, and yet these epistemic forms are important in all kinds of interactions.

Research on epistemic devices has predominantly focused on writing, particularly on academic writing (Chen, 2010; Hyland, 1994; McEnery & Kifle, 2002). Therefore, it is vital to further extend the research range to learners' use of epistemic forms in speech and in other discursive writing data such as emails. Addressing these gaps, this research seeks to enhance our understanding of how learners utilise epistemic forms across different genres (Swales, 1990) as it is expected that JLE will use epistemic forms in different ways due to their genre awareness (Yasuda, 2011). Furthermore, both in test settings and in the real world, differences in the task type, such as between presentation, discussion, interactive tasks, and conversation (Gablasova & Brezina, 2015; Gablasova et al., 2017), along with individual style (Gablasova et al., 2017; Liao, 2009; Siegal, 1996) could affect the linguistic choices of users irrespective of their L1 or L2 background (Gablasova & Brezina, 2015).

The purpose of this research is to examine the use of epistemic forms used by JLE in spoken and written data, examining the development according to their proficiency levels per word classes. Chapter 3 examines epistemic adverbs, Chapter 4 explores epistemic verbs, and Chapter 5 deals with modal verbs. Chapter 6 investigates if task types give any effect on their choice of epistemic devices. The results are compared to native speakers' data in each chapter. These aims are described as research questions along with hypotheses in Section 1.3 below in this chapter. L2 data are gathered from the National Institute of Information and Communications Technology Japanese Learner English (NICT JLE) Corpus (Izumi et al., 2004) and the EF Cambridge Open Language Database (EFCAMDAT) (Huang et al., 2017). Both of these datasets comprise learners' linguistic data collected through a course of language test, which is detailed in Chapter 2. The findings of this research can be of relevance to teachers, material developers, other researchers in language learning as well as language testers interested in second language pragmatic ability.

This chapter is structured as follows: Section 1.2 offers an overview of previous studies pertinent to the current research. This literature review begins with a discussion of pragmatic competence, underlining its significance as foundational knowledge for expressing epistemic stance. Subsequent sections delve into epistemic modality (1.2.2) and use of epistemic devices by second language learners (1.2.3) and discourse markers (1.2.4), which share similar functions to epistemic devices. Attention is then shifted to the written and spoken modes in Section 1.2.5, as the difference of these two modes of communication is vital to the present study. Section 1.2.6 describes the influence of task types on the performance of L2 learners. Details of the two learner corpora used in the research, as well as the framework for analysis, will be introduced in Chapter 2 on data and methodology. Following this review, the research objectives and questions that guide the main studies of this research are presented, along with hypotheses about the use of epistemic devices by JLE.

1.2 Literature review

1.2.1 Pragmatic competence

The topic of the current research sits at the intersection of three broad areas of linguistics; namely, syntax, semantics, and pragmatics. The most critical area is second language (L2) learners' pragmatic knowledge. Pragmatics is defined as "the study of language from the point of view of users, especially of the choices they make, the constraints they encounter in using language in social interaction and the effects their use of language has on other participants in the act of communication" (Crystal, 1997, p. 301). Leech (1983) argues that general pragmatics can be divided into two aspects: pragmalinguistics and sociopragmatics. Pragmalinguistics "can be applied to the study of the more linguistic end of pragmatics - where we consider the particular resources which a given language provides for conveying

particular illocutions” (p. 11). Pragmalinguistic knowledge refers to the “linguistic resources that are available in a particular language and that are necessary to express a specific communicative effect; this includes knowledge of different forms and their meanings” (Félix-Brasdefer, 2012, p. 90). For example, this is the knowledge of how to construct a form to address the recipient properly or how to formulate a request when clarification is necessary. Sociopragmatics, in contrast, is “the sociological interface of pragmatics” (Leech, 1983, p. 10). Sociopragmatic knowledge refers to “knowledge of social conventions at the perception level, such as an awareness of the differences in social distance or social power among interlocutors” (Félix-Brasdefer, 2012, p. 90). For instance, in an academic context it relates to knowledge of what kinds of things are (un)reasonable to ask of a professor. These two types of pragmatic knowledge are viewed within the theory of communicative competence (Canale & Swain, 1980; Trosborg, 1995). The ability to appropriately use epistemic modality contributes to the communicative competence (Chen, 2010).

The use of epistemic devices is closely related to the speech act. According to speech act theory (Austin, 1962; Searle, 1969), there are three types of speech act: “a locutionary act (the act of saying), an illocutionary act (the performance of a particular language function by what is said), and a perlocutionary act (the achieving of some kind of effect on the addressee)” (Ellis, 2008, p. 160). As Levinson (1983) maintains, the term ‘speech act’ is used to refer to the illocutionary act in general, and speech acts can be further classified as apology, offer, request, refusal, advice and so forth. Speech acts frequently need to be mitigated by a speaker by using an epistemic device. For example, one of the most frequently researched speech acts (Roever, 2015, p. 388) are requests, illocutionary acts “whereby a speaker (requester) conveys to a hearer (requestee) that he/she wants the requestee to perform an act which is for the benefit of the speaker” (Trosborg, 1995, p. 187). As this definition suggests, making requests entails imposition to the requestee and therefore they often involve epistemic markers.

The successful use of epistemic devices is relevant to politeness. Brown and Levinson (1987) explain any imposition on an interlocutor as a face-threatening act (hereafter, FTA) and argue that requestive force needs to be mitigated by linguistic strategies, considering positive and negative face. Face is a notion borrowed from the sociologist Goffman and is defined by Brown and Levinson (1987) as “the public self-image that every member wants to claim for himself” (p. 61). Positive face is a desire to be liked, understood, or admired by others in the society they belong to, whereas negative face is a desire to be free from any imposition, such as responding to requests. If the person who makes requests wants to protect their positive face or the negative face of the requestee, these requests need to be modified with appropriate linguistic choices in the context so that the request is successfully responded to or so that their social interaction is not harmed (Culpeper et al., 2018). On top of the imposition of the requests, the requester needs to consider the power difference and social distance between themselves and the recipient. It is a particularly demanding task for students to consider these elements when making requests, especially for L2 students who might need to consider cultural differences as well.

1.2.2 Epistemic modality

Epistemic modality is realised by using adverbs, verbs, modal verbs, adjectives, and noun. This thesis investigates the use of adverbs, verbs, and modal verbs only. Conversely, epistemic adjectives such as *likely* and epistemic nouns such as *argument* are not dealt with. Epistemic adjectives are used less frequently than the target epistemic devices, based on a preliminary study, and epistemic nouns are primarily used in academic writing, which is not the target of this research. Epistemic verbs include *I guess*, *I believe*, and *I think*, as in (1) and (4). Epistemic adverbs include *probably*, as exemplified in (2).

Modal verbs such as *might* in (3) are another important linguistic device which realise epistemic modality. Over the decades, they have been paid much attention and therefore, scholars have categorised them in many different ways. For example, they are divided into root form or epistemic form, intrinsic and extrinsic modality, as well as epistemic, deontic and dynamic modality. Biber et al. (1999) indicate nine central modal auxiliaries: *can, could, may, might, must, shall, should, will, would*. Use of these modals in particular contexts can be classified into two categories. They classify intrinsic modality as “actions and events that humans (or other agents) directly control: meanings relating to permission, obligation, or volition (or intention)” (p. 485). An example is provided in (5). In contrast, extrinsic modality is referred to as the “logical status of events or states, usually relating to assessments of likelihood: possibility, necessity, or prediction” (p. 485), which exemplified in (6).

(5) You *can*’t mark without a scheme. You *must* make a scheme. (CONV)

(6) Otherwise you *might* jeopardize the situation. (CONV)

(Biber et al., 1999, pp. 485-486)

Intrinsic modality corresponds to deontic modality and extrinsic modality represents epistemic modality. Modal verbs have a form of present tense and past tense, though these tenses do not correspond to present and past time reference. Biber et al. (1999) contend that “[a]lthough they can convey meanings that relate to time difference (e.g. *can* vs. *could*), the differences among them relate primarily to modality rather than tense” (p. 73). JLE often distinguish *can* for present and *could* for past, which seems to overlook that the primary difference lies in modality rather than tense. This understanding is vital when analysing JLE usage of *could*, which tends to be a dynamic past use of *can* or part of the request phrase *could you?*. The epistemic use of *could*, indicating possibility or used to make suggestions, is rare among JLE, in contrast to its frequent use by native speakers. This topic is addressed in Chapter 5 on modal verbs.

Quirk et al. (1985) define modality as the “manner in which the meaning of a clause is qualified so as to reflect the speaker’s judgement of the likelihood of the proposition it expresses being true” (p. 219). They indicate each of the modals has both intrinsic and extrinsic uses. For instance, *may* “has the meaning of permission (intrinsic) and the meaning of possibility (extrinsic)” (p. 220). As for ambiguity between the modal verbs, in the case of *can* and *may*, they “overlap to a small extent in the area of permission and possibility, but this overlap is almost entirely confined to written or formal English, and these modals are very far from being generally in free variation” (p. 220). This variation based on the mode of communication indicates the importance of distinguishing between written and spoken data when analysing modal verbs. Huddleston and Pullum (2002) categorise modal auxiliaries into three different types; as epistemic modality, deontic modality and dynamic modality. They describe the origin of the word ‘epistemic’ as “derived from the Greek for ‘knowledge’: this kind of modality involves qualifications concerning the speaker’s knowledge” (p. 178). Additionally, the other term ‘deontic’ comes from the “Greek for ‘binding’, so that here it is a matter of imposing obligation or prohibition, granting permission, and the like” (p. 178). ‘Dynamic’ presents the ability of the speaker/writer. As dynamic use is less relevant for the current thesis, the examples below are confined to epistemic and deontic use as well as an ambiguous case as below. In (7), *may* is used as epistemically as it conveys the possibility of his delay whereas *may* in (8) is utilised to tell the permission to stay. A fixed phrase to ask permission, *may I*, falls into this category.

(7) He *may* have been delayed.

(8) You *may* stay if you wish.

(9) He *may* sleep downstairs.

There are many ambiguous cases that are difficult to categorise. The example in (9) can be interpreted as ‘perhaps he sleeps downstairs’ or ‘he is allowed to sleep downstairs’.

Huddleston and Pullum (2002) explain that deontic use can be regarded as “more basic, with the epistemic ones arising by extension to the domain of reasoning of concepts primarily applicable in the domain of human interaction, such as compelling and permitting” (p. 178). Therefore, it is expected that the frequency of use of epistemic use is less than deontic use.

1.2.3 Epistemic modality in SLA

As for the research regarding second language acquisition (SLA), Nakayama (2021) explores the frequency of use of modal verbs by learners, compared to NS as part of the research. In the research, eight modal auxiliary verbs are examined: *can*, *could*, *may*, *might*, *will*, *would*, *should*, and *must*, using part of the International Corpus Network of Asian Learners’ English (ICNALE). 100 texts contain approximately 150,000 tokens across four proficiency levels. Findings from this study demonstrate that JLE use modal verbs epistemically compared to NS, and the difference between these groups is statistically significant. For example, B2¹ group utilise *could* 3% in epistemic use whereas NS use it in 21% in epistemic use. He points out that infrequent use of hedging devices, i.e. epistemic use of modal verbs or other epistemic modality such as *I think*, *perhaps*, *maybe*, imply that JLE “might fail to express their opinions or thoughts indirectly when needed or to employ politeness strategy appropriately” (p. 31). The present thesis looks to analyse the spoken data from a different data set, and therefore it will be a useful addition to this area of study.

Research on L2 use of epistemic modality has focused on written language. For example, Chen (2010) is a corpus-based study that explored the frequency and use of epistemic modalities to identify L2 Chinese learners’ developmental pragmatic competence across different proficiency levels in academic written discourse in comparison with native speakers of English. The data were collected through BNC Baby for NS and from the Chinese Learner English Corpus, which contains one million words from Chinese high school and college English as a foreign language (EFL) learners’ essays across five proficiency levels. A quantitative analysis was conducted on the nine target epistemic devices, i.e., *may*, *might* as epistemic modal verbs; *possible*, *likely*, *unlikely*, *certain*, *sure* as epistemic adjectives; *possibly*, *probably* as epistemic adverbs. The findings show that L2 writers in this study employ significantly fewer downtoners such as *might*, and *possible* but more boosters such as *sure* than NS. The results also indicate that with increasing proficiency, the developmental patterns of L2 learners’ use of particular lexical items follows certain acquisitional sequences. For example, epistemic adjective *likely* is not used among lower level users such as high school or early college students and only used by stage 4 corresponding to B2 in the Common European Framework of Reference for Languages, CEFR (Council of Europe, 2001). This could be due to inherent difficulty for L2 learners with the semantic complexity or multifunctionality of the epistemic device (Palmer, 2001).

On the other hand, Gablasova et al. (2017) focus on the same topic in spoken data. Their research investigates the use of epistemic stance in spoken L2 English. Epistemic devices from three categories were examined: adverbial, adjectival, and verbal expressions in the Trinity Lancaster Corpus (TLC). The corpus consists of 500,000 words learners and examiners used during the TLC examination. The purpose of their study is to examine the effects of task type, and therefore four task types are investigated: *conversation*, *presentation*,

¹ These levels are stratified by the Common European Framework of Reference for Language (CEFR)-linked proficiency bands (B2+, B1-2, B1-1, A2). B2+ indicates a slightly higher than B2 in CEFR.

discussion, and *interaction*. Another focus is on individual speaking style as a variable. The findings indicate that advanced L2 speakers use epistemic modality in dialogic tasks more frequently than in monologic tasks (e.g., presentations). It can be said that advanced L2 speakers can adjust their way of speaking not only to fulfil the requirement of the individual tasks but also to pay attention to social aspects as well. They understand the role of epistemic devices to help them to manage the relationship in conversation when conveying agreement or disagreement. In addition, the study finds that L2 learners show systematic variation in the epistemic stance at the individual level. For instance, the use of *maybe* by 10 Spanish L1 speakers taken from TLC corpus demonstrates that one of them uses *maybe* quite frequently across the three dialogic tasks, whereas another uses it rather moderately and the other does not use it at all in any of the tasks. These findings offer further evidence of the large variety of communicative strategies used by advanced L2 speakers.

Fordyce (2009) examines how Japanese EFL learners use epistemic forms in spoken and written data. The participants are 39 university students, ranging from low intermediate to intermediate level. The written data consist of essays that they wrote, making up a total of 12,583 words. The spoken data were collected through ten-minute interview by the author and transcribed for a total of 6,615 words. The findings suggest that although these students use more epistemic forms in the written mode than spoken one, which requires greater language processing effort, their use of epistemic forms does not match that of native speakers in any clear way. However, it would be worth exploring the same topic with different data as the number of words and the proficiency range of participants are limited.

Pérez-Paredes and Bueno-Alastuey (2019) investigate the most frequently used certainty adverbs, namely *obviously*, *really*, and *actually*, in LOCNEC, the Louvain Corpus of Native English Conversation, by native speakers of English. Use of these adverbs by this group is compared to that of varying L2 groups (Chinese, German, and Spanish) in the three data sets of the LINDSEI, Swedish advanced speakers of English of the Louvain International Database of Spoken English Interlanguage (De Cock, 1998). All the data investigated are taken from a picture description task, which comprises 45,544 words in NNS data and 10,652 words in NS. Quantitatively, the results exhibit that *obviously* is used primarily by native speakers, whereas *really* is used by German speakers significantly more frequently. Similarly, *actually* is used by German speakers more frequently than NS and two other learner groups. It should be noted that the fact German speakers have an average of nine months of study-abroad experience could affect the difference. The findings indicate that, in spoken English, it is not always the case that NS use certainty adverbs more often than NNS in this study. In the case of *obviously*, task type may have affected the pragmatic meaning displayed by NS, which contradicts the claim by Simon-Vandenberg and Aijmer (2007) that the expression of certainty in modern English goes beyond epistemic meanings.

As a preliminary study for the current research, Suzuki (2022) investigates the use of adverbial epistemic stance markers by JLE. The markers are selected from the list presented by Gablasova et al. (2017) and analysed in data from the NICT JLE spoken corpus. This corpus encompasses four different types of tasks: interview, picture description, role-play, and narrative, within a speaking test setting. Given that the corpus includes a subset of native speakers of American English (NS), the results are compared across three groups: advanced and intermediate proficiency level groups of JLE, and NS. Findings indicate that both the advanced and intermediate JLE groups utilise adverbial epistemic devices such as *maybe* or *probably* more frequently than NS in the picture description task, whereas NS employ them more frequently in all other tasks, including interviews, role-play, and narrative tasks. It is plausible that JLE are inclined to describe pictures in the task either more objectively or simply need to fill time more to generate words they deem appropriate or wish to use than NS. In contrast, for L1 speakers, fillers are less necessary in this context than for L2 speakers,

and their choice of epistemic stance markers may be more related to uses to help inter communication, such as hedging. This study is further explored in Chapter 3 of the current research on the use of adverbial epistemic stance markers, and Chapter 6 on the effect of task on these epistemic stance markers.

These previous studies indicate the general trend of L2 English learners' limited use of epistemic markers. Even advanced learners tend to employ fewer markers with higher frequency than L1 speakers of English.

1.2.4 Discourse markers

In the field of pragmatics, discourse markers (DMs), which is defined by Schiffrin (1987) as “sequentially dependent elements which bracket units of talk” (p. 31), have been paid much attention as well. According to Schiffrin (1987), DMs are “‘sequentially dependent’ in that the units of talk prior to and following a discourse marker are indicative of the kinds of social and pragmatic meaning a speaker communicates or infers” (Fung & Carter, 2007, p. 411). Examples of such markers include *well*, *I think*, and *sort of*. These markers partly overlap with the devices investigated as markers of epistemic stance. Therefore, several key previous studies are reviewed in this section in association with the current research.

For example, Fung and Carter (2007) investigate the difference in the production of discourse markers by L1 English speakers and learners of English. The data are taken from a pedagogic sub-corpus of CANCODE (Cambridge and Nottingham Corpus of Discourse in English), a corpus spoken British English, and a corpus of interactive classroom discourse of secondary students aged 17 to 19 in Hong Kong. The latter corpus comprises a total of 14,157 words spoken by 49 students (20 males, 29 females). The comparative analysis was conducted using a functionally based, multi-categorical framework which uses four categories: interpersonal (e.g., *I think*, *well*, *really* etc.), referential (e.g., *but*, *and*, *however*, etc.), structural (e.g., *first*, *so*, etc.) and cognitive categories (e.g., *I think*, *I mean*, *sort of* etc.). The results support the general trend that L2 users less frequently use DMs such as *sort of* or *actually* and more frequently use *I think* than L1 speakers. These findings are in line with Fordyce (2009). Qualitatively, *I think* is used more to show the degree of certainty and the epistemic stance between discourse participants than to signal an act of cognition.

Liao (2009) explores the use of discourse markers by L2 English speakers in the study-abroad setting. A total of nine DMs are examined: *yeah*, *oh*, *you know*, *like*, *well*, *I mean*, *okay*, *right*, and *actually*. There are 1422 tokens in total in the data. The participants are 6 L2 speakers; 3 female and 3 male, Chinese L1 graduate students in a research university in California. The study examines not only how L2 speakers' pattern of DM use compares to those of NS but also the role of gender and style as well as the influence of individual identity on L2 speakers' use of DMs. The data were collected in two distinct settings. First classroom discussion was recorded; then participants were interviewed by the author, who shared the same L1 with them. The results illustrate that first, a limited range of DM use by L2 speakers was observed, which lends support to Fung and Carter's (2007) work. Second, they exhibit a significant difference in the use of DMs in classroom discussion where they avoid using colloquial expressions as they are required to be professional teaching assistants. These findings suggest their understanding of pragmatically appropriate and context-appropriate speech style.

Romero Trillo (2002) examines the use of pragmatic markers in the speech of L1 and L2 speakers of English in spoken discourse at different ages; namely, children and adults. The purpose of this study is to identify if exposure to a foreign language is enough in a Spanish educational setting to acquire pragmatic competence. In this study, six discourse markers (*look*, *listen*, *you know*, *I mean*, *well*, and *you see*) are examined, using CHILDES, a collection of data with naturally occurring interaction of children from different social,

linguistic, and educational backgrounds, and the L2 UAM-corpus, a section of the Universidad Autónoma de Madrid Corpus. The results indicate that while native and non-native children show a similar sequence in the use of most of the markers except *listen*, non-native speakers “fail to acquire the appropriate markers that scaffold adults’ speech” (p. 783). Lack of competence in the use of involvement markers, devices to enhance speaker’s positive face by involving listeners in the thinking process of the speech, i.e. *you know*, *you see*, *well*, and *I mean*, can lead to pragmatic fossilisation. This phenomenon means that “a non-native speaker systematically uses certain forms inappropriately at the pragmatic level of communication” (p. 770). This is partly caused by insufficient pragmatic resources in their L2 learning process (e.g., curriculum with no focus on pragmatic markers), which may be applicable for JLE in EFL settings.

Poos and Simpson (2002) explore the use of two DMs, *kind of* and *sort of*, as hedging devices, using the Michigan Corpus of Academic Spoken English (MICASE). It consists of 900,000 words at the time of research. For this study, a sub-corpus was used, which comprises 64 speech events and a total of 722,423 running words. The results support the preliminary hypothesis that these hedging devices are used more frequently in the humanities and social sciences than the hard or natural sciences. They observe that the use of hedging cannot be characterised in only one way, but it plays an essential role as pragmatic tools to demonstrate uncertainty, to manage speakers’ relationship with one another as well as put technical words in context in relation with the interlocutor. The taxonomy for *kind of* and *sort of* is applicable to the analysis in the current research.

Many of these previous studies adopt a contrastive approach to analyse the DM use of L1 and L2 English and show similar trends as can be seen for epistemic modality. For example, *sort of* as a hedging device tends to be used less frequently by L2 users than L1 English speakers (Fung & Carter, 2007; Poos & Simpson, 2002). The use of these epistemic forms could reflect not only L2 learners’ proficiency level but also their pragmatic competence, i.e. their pragmalinguistic knowledge as well as sociopragmatic knowledge. However, it is still not clear if these results are relevant for other L2 learners such as Japanese learners of English or comparable in terms of developmental trajectory. The results of the present research will contribute to these topics.

1.2.5 Mode of communication: speaking versus writing

Mode of communication affects the use of epistemic markers. According to Biber et al. (1999), the occurrence of epistemic markers is more frequent in conversation than writing. For example, the occurrence of adverbial expression is more than “twice as common in conversation, especially, *really*, *actually*, *like*, *maybe*” (p.128). For verbs, they describe that nearly “one third of all content words in conversation are lexical verbs *know*, *think*, *see*, *want*, *mean*” (p.128). Modal verbs are approximately “twice as common in conversation than in the written registers, especially *can*, *will*, *would*” (p.128). These behaviours are legitimate as writing inherently allows time for planning before execution. Biber et al. (1999) contend the grammar of writing is:

more architectural, in the sense that a written sentence has a static existence: its author can construct it over an extended period of time, rethinking and revising according to need. The writer and reader may contemplate the end result as an enduring object, backtracking and rereading if necessary to ensure fuller comprehension. (p. 1066)

In addition, consulting resources such as books, online materials, and dictionaries can affect the frequency of modal verbs and other epistemic devices as well. For instance, *maybe* is less necessary if the writer is sure about their proposition as a result of referring to resources

before writing. This fact could decrease the use of uncertainty words in written mode. However, in the study of L2 learners such as Fordyce (2009), JLE use epistemic forms more frequently in writing task. It could be possible that using these markers relate to an increased cognitive load for learners if the epistemic devices are not familiar to them. Therefore, results show that they are used in writing more frequently than in the spoken mode.

In contrast, speaking “takes place in real time, and is subject to the limitations of working memory, so that its principles of linear construction are adapted to that purpose” (Biber et al., 1999, p. 1066). Speakers often have less time to formulate their thoughts, despite the complexity of the process. According to Levelt (1989)’s model, the act of speaking consists of the following four processes: conceptualization, formulation, articulation and self-monitoring. Both L1 and L2 speakers need time to conceptualize their thoughts; however, the later processes are almost automatic for L1 speakers, while L2 speakers need further time especially for the process of formulation, which includes grammatical and phonological encoding (Levelt, 1989, p. 11). To gain such time, epistemic stance markers may be used by L2 learners. However, the range of the markers are limited in many cases. In other words, writers can take back what they wrote while contemplating the contents and completely delete them before showing them to the recipients. However, speakers need to make additional utterances for reformulating, and it is not possible to retract their utterances. Biber et al. (1999) refer to the grammar of speaking as “‘dynamic’, in the sense that it is constructed and interpreted under real-time pressure, and correction or reformulation is possible only through hesitations, false starts, and other dysfluencies” (p. 1066). This feature of speaking elicits the use of epistemic stance markers from speakers including learners.

Ishikawa (2015) presents a comparison of spoken and written texts by JLE and NS, drawing data from ICNALE. The study reveals that NS display a smaller disparity in vocabulary and grammar use across these communication modes compared to JLE, who exhibit significant differences. Specifically targeting the pragmatic aspects crucial to this research, the findings indicate that, on average, NS utilise these devices 2.9 times in speaking versus 3.84 times in writing (44% vs. 56%), whereas JLE use them 1.05 times in speaking versus 2.55 times in writing (29.1% vs. 70.9%). This demonstrates that JLE use these devices less frequently in spoken form than in written, unlike NS where there is a smaller difference between the two modes. The research notes the sparse nature of JLE utterances in the data but suggests that the possibility that hedging may not be adequately utilised at the appropriate times and contexts. The frequency of informal and conversational hedges such as *actually*, *kind of*, and *maybe* are examined, but modal verbs are excluded from this analysis.

1.2.6 Task

In addition to the modes, i.e. written and spoken, task type may affect the performance of learners. In the context of corpus linguistics and language assessment, Cushing (2017) contends that “[b]y comparing the linguistic features of responses to different test tasks purportedly assessing the same construct, researchers can also investigate the effects of task variables on test performance” (p. 442). This can be interpreted as suggesting that task type can affect learners’ language use. One definition of task in the context of SLA is given below.

1. There is a primary focus on meaning (as opposed to form).
2. There is some kind of gap (information, opinion, or reasoning), which needs to be filled through performance of the task.
3. Learners need to use their own linguistic resources to perform the task.
4. There is a clearly defined communicative outcome other than the display of ‘correct’ language. (Ellis, 2008, pp. 818-819)

Tasks included in the data for this study are used specifically as task-based testing (Norris, 2009), which are described in detail in Chapter 2.

Regarding the potential effects caused by different types of tasks, Kormos and Trebits (2012), illustrate that, in picture description tasks, the conceptualisation load can be reduced for learners because such tasks do not require them to generate content; instead, they can describe what is visible in the picture. However, during the formulation phase, they might face difficulties due to their limited vocabulary. Conversely, in narrative tasks, speakers must conceptualise their ideas, but the formulation load may decrease since they can choose words from their existing vocabulary. It is therefore crucial to give these task characteristics further attention when analysing data. Kormos and Trebits (2012) examine four aspects of tasks performance, fluency, lexical variety, syntactic complexity, and accuracy. In their study, EFL learners are engaged in narrative task and picture description tasks in both spoken and written modes. Their findings suggest that these participants utilise a wider range of vocabulary in written mode than oral mode, but syntactic complexity is similar between these two modes.

Michel et al. (2019) explore task effect on (morpho)syntactic complexity in second language (L2) writing development. They employ the EFCAMDAT and manually categorise the 128 tasks as 6 categories. The findings demonstrate that epistemic devices are more frequently used in the descriptive tasks than narrative tasks.

Yoon and Polio (2017) indicate that the functional differences between task types have a significant impact on cognitive complexity. They analyse data collected through argumentative and narrative essays by L1 and L2 writers studying in a US university and present that in regard to lexical complexity, both groups use “longer and less frequent words in the argumentative condition and a greater diversity of words in the narratives” (p. 291).

The role of the speaker also affects the choice of epistemic stances by L2 speakers. Gablasova and Brezina (2015) examine stance-taking strategies taken in an examination of spoken English. The focus of their study is on the interaction between the examinees and examiners who are advanced L2 English speakers and L1 speakers of English, respectively. The target markers are adverbial epistemic markers (AEMs) such as *actually*, *maybe*, and *sort of*. The data used are collected from an early version of the TLC, which comprises 450,000 words and transcription of recordings from 132 examinees (31 from Italy, 30 Spain, 23 China, 13 Sri Lanka, 4 India) and 66 examiners. L2 learners’ proficiency corresponds to C1 and C2 in CEFR. The findings demonstrate that candidates used on average more AEMs than examiners, but there is statistically significant difference only in the interactive task from the three task types of presentation, interactive task, and discussion. The two groups both demonstrate high frequency of *maybe*, *actually*, and *kind of*, and low frequency of *apparently*, *clearly*, and *no doubt*. The differences lie in the range of AEMs. Candidates employed fewer markers with higher frequency, whereas examiners more systematically used a greater range of AEMs. Compared with Fordyce (2009), the candidates in this investigation have higher proficiency levels. Thus, although proficiency is one component, other factors could play an important role. They conclude that the speaker’s role must be considered in relation to their findings, because even though both candidates and examiners participated in the same task, their role was different as stipulated in the task requirement (e.g., examiners give prompts to candidates and the candidates need to make comments on that or ask questions about it.) Therefore, it is too simplistic to conclude that the difference in the use of epistemic strategies only reflects L1 and L2 difference.

The main focus of this thesis is on the effect of task types in the use of epistemic devices; however, task complexity, task familiarity and degree of online/offline planning may also have an impact on the use of epistemic devices in different tasks.

Skehan (1998) and Robinson (1995) present different views in terms of task complexity, but a central hypothesis of both the Limited Attentional Capacity Model

(Skehan, 1998) and the Cognition Hypothesis (Robinson, 1995) is that the “cognitive complexity of a task will impact the complexity and accuracy of the language people use to meet the cognitive/communicative requirement of the task” (Alexopoulou et al., 2017, p. 183). This means that even in the same type of task, these factors can influence the use of epistemic markers by JLE.

Skehan (1998) distinguishes the factors code complexity, cognitive complexity and communicative stress of a task, and all three of these factors affect the linguistic complexity and accuracy of the elicited language. He predicts that learners’ attentional resources are limited and this will lead to competition between complexity and accuracy. In contrast, Robinson’s Cognitive Hypothesis assumes that learners can access multiple attentional pools. He distinguishes task complexity features from task condition features and task difficulty. Robinson argues that some aspects of task complexity such as higher reasoning demands will increase both high linguistic complexity and accuracy, as the higher cognitive load will trigger learners to activate and allocate attentional resources to the linguistic forms of task performance.

Topic familiarity is another important variable when considering task effects. Yang and Kim (2020) investigate the effect of the topic familiarity and they show that participants produce essays with significantly lower lexical complexity for the less familiar topic than for the familiar topic, while the performance areas of accuracy fluency, and syntactic complexity are not affected by the degree of familiarity. Qiu (2020) examines the influence of topic familiarity and repetition of the task. Findings show that participants perform monologue speech with syntactically more complex speech under familiar conditions and increase their complexity, accuracy and fluency in task repetition. Additionally, task familiarity and repetition may facilitate conceptualization, i.e., taking a relevant concept from their memory, deciding the content, and arranging the order of the information.

Previous research such as Khuder and Harwood (2015) indicates that online planning in a test setting can have an impact on the process of writing. For example, performances of writers in online setting are limited to a surface-level review, whereas at the planning stage of an offline piece of writing, they refer to resources, taking time to review each process, all of these processes can have an impact on their language choice. In the current thesis, all the data are collected through an online planning type of test in both speaking and writing, and these effects need to be taken into account.

As highlighted in the previous research discussed in this section, task performance can be influenced by various factors, such as task familiarity, complexity, and the degree of online or offline planning, in addition to task types. Since addressing all of these factors would require different research designs and is therefore not feasible, the primary focus is on the effect of task types.

1.3 Research Questions

With the points discussed in the previous sections in mind, the study presented in this thesis is led by the following three main research questions:

1. What is the developmental trajectory of the use of epistemic devices by JLE across the different proficiency groups?
2. How are epistemic devices used in the spoken and written data?
3. Is there any difference in the usage patterns of epistemic devices between JLE and NS?

The novelty of the current research lies in examining how JLE use epistemic modality across various word classes, including verbs, adverbs, and modal verbs. It also explores developmental patterns, such as variations across proficiency levels and differences between native speakers of English and JLE, as well as the impact of task types on the usage of these markers. The advantage and aim of taking a contrastive approach are discussed in Chapter 2. The target epistemic devices are listed in Gablasova et al. (2017) and are also specified in Chapter 2.

1.3.1 Hypotheses

The hypothesis for the first research question is that JLE use some types of epistemic stance markers more than NS. According to previous studies such as Fordyce (2009, 2014), JLE tend to use epistemic adverbs such as *maybe* and cognitive verbs such as *I think* more often than modal verbs such as *could* due to the semantic complexity or multifunctionality of this epistemic device (Palmer, 2001).

The findings of Gablasova et al. (2017) suggest that advanced L2 speakers use less epistemic modalities in a monologic task such as presentation than in dialogic tasks such as discussion, conversation, and interactive task. Considering the effect of such interactivities, interview and role-play in the current research may demonstrate higher frequency than other tasks. In addition, the tendency could be distinctive to either speaking or writing tasks. As previous studies such as Fordyce show JLE might use epistemic devices more in the writing task while L1 data such as Biber et al. (1999) indicate they are used more frequently in spoken data.

The developmental sequence could be shown through the increasing or decreasing use of epistemic modality. The results of Chen (2010) indicate that the L2 writers “steadily accumulate their pragmatic knowledge of how to use epistemic modality appropriately in the target language and become more native-like with the increasing language proficiency” (p. 45). The results for JLE are expected to align with these findings to some extent.

1.4 Conclusion

This introductory chapter has presented the background to this research, has explored previous studies in relevant fields via a literature review, and has provided research questions to lead the current study.

In summary, epistemic modality is defined as the linguistic forms used to convey judgement based on the speaker or writer’s knowledge, beliefs, or feelings. Using epistemic devices is a critical linguistic skill as their use conveys level of certainty. In academic papers, writers assert their claim as certain or open to doubt by using or not using epistemic devices. In addition, using epistemic devices is vital to show speakers’ or writers’ stance to interlocutors. For example, bare assertion without any type of downtoners can be inappropriate when a speaker in a lower position is responding to a person in a higher position. This skill set, i.e. using epistemic devices appropriately, is sometimes difficult for second language learners. Previous studies such as Fordyce (2009) show that L2 learners, especially those at lower proficiency levels, tend to rely on the two lexical items such as *I think* and *maybe*. In the case of modal verbs, the low frequency of use by JLE might be due to the multifunctionality of these verbs. For example, *could* can be used as the past tense of *can* to express dynamic modality, or it can convey a hypothetical meaning in the present tense.

The usage of these markers can be affected by many factors. In particular, whether the written mode or spoken mode is used can have an effect on their use. Biber et al. (1999) demonstrate that epistemic stance markers are more frequently used in conversation, while L2 learners sometimes use them in writing more frequently. Another possible effect derives

from task type. Gablasova et al. (2017) show that advanced L2 learners may change the use of epistemic stance markers depending on the task type. For example, the participants use fewer epistemic devices in a presentation task, which generally requires formal language and direct expression rather than softening assertion. In contrast, in interactive tasks such as role-playing, they use them more. This is evidence of the pragmalinguistic or sociopragmatic knowledge (advanced) L2 learners have. In writing tasks, Michel et al. (2019) show that epistemic forms are more frequently used in descriptive tasks than narrative tasks. Task type difference is an important factor for the current study as well.

The next chapter presents the methodology used to examine the use of epistemic devices in both oral and written modes, and the corpus data on which the study is based. In addition, underpinning theory to analyse the data and approach taken in the main studies and target epistemic devices will be covered.

Chapter 2 Data and Methodology

2.1 Introduction

This chapter delineates the data used, and the methodological underpinnings of the present study. As outlined in the introductory chapter, this research aims to elucidate the development pattern of epistemic stance marker usage in both spoken and written outputs by Japanese learners of English (JLE), and to contextualise this within a comparative framework with native speakers of English (NS) from Chapter 3 to Chapter 6. Additionally, Chapter 6 specifically addresses the influence of task types on this usage. To fulfil these objectives, the study uses data from two key corpora: the NICT JLE corpus, representing spoken data, and EFCAMDAT, which comprises written data. The suitability and benefits of these corpora are evaluated in light of the research goals.

This chapter is segmented into five sections. Section 2.2 establishes the theoretical framework for the analysis. This is followed by a detailed description of the data sets in Section 2.3. The methodology is outlined in Section 2.4, which precedes an exposition of the statistical approach employed in the current study, in Section 2.5.

2.2 Theoretical Framework

Three theoretical frameworks are described in this section. Firstly, this study employs a corpus-based approach using two learner corpora to investigate the use of epistemic adverbs, verbs, and modal verbs. Secondly, contrastive interlanguage analysis is described in section 2.2.2, since this research investigates the use of epistemic markers by NS in order to compare the use to that of JLE. Finally, the analytical framework applying Systemic Functional Linguistics is delineated in section 2.2.3.

2.2.1 Corpus-based approach

The advantage of using corpora is highlighted by Beeching (2016), who notes that using corpus data “allows the researcher to see usage in context and to uncover regularities and patterns of usage, both with respect to the class, age and gender of speakers, to text types and

genres” (p.27). This approach is particularly suited to the current research as its aim is to analyse the usage pattern of epistemic devices in both oral and written modes in daily situations.

This approach also offers advantages in analysing learners’ data. Specifically, regarding the benefits of using learner corpora for researchers studying interlanguage pragmatics, Vyatkina and Cunningham (2015) state that “[i]ncreasingly, interlanguage pragmatics (ILP) researchers are able to learn more about how second language (L2) learners develop their abilities to communicate effectively and appropriately in specific social settings by investigating and exploring the various texts housed in learner corpora” (p. 281). Once again, this method proves beneficial in examining developmental patterns across different proficiency levels and in various contexts, such as in different tasks that reflect social settings. The details of these data are discussed in Section 2.3.

2.2.2 Contrastive interlanguage analysis

The current study positions itself in the domain of learner corpus research, adopting a corpus-based approach (McEnery & Hardie, 2011), as well as contrastive interlanguage analysis (hereafter CIA). Linguistic investigation of learner corpora in most cases involves one of two methodological approaches, CIA and computer-aided error analysis (Granger, 2002). The focus of this study is on the method of CIA, which is “contrastive, and consists in carrying out quantitative and qualitative comparisons” (p.8) between native speakers of English (NS) and non-native speakers (NNS) data. The aim of the comparison is to uncover the “characteristics and patterns of use that distinguish learners from native speakers” (Callies, 2013, p. 40)

Comparing NNS data with NS data does not necessarily shows NNS follow native speaker’s norms. According to recent L2 learner research (Taguchi & Ishihara, 2018), successful pragmatic acts, such as using epistemic devices appropriately, are “increasingly considered calibrating and adjusting one’s own resources to achieve one’s interactional goals rather than approximating to native speakers’ norms” (Kizu et al., 2022, p. 35). However, in terms of pedagogical implication, uncovering such characteristics is also of use for language teachers and material developers because the results indicate “what native/expert speakers actually do rather than what reference books say they do” (Hunston, 2002, p. 212). For instance, Suzuki (2018a) explores L1 English speakers’ use of the request expression *could you kindly*, which is used by Japanese learners and frequently appears in English textbooks in Japan. The typical usage in textbooks treats the form as appropriate to express a straightforward, polite request, but the examples extracted from the Corpus of Contemporary American English (COCA) and British Web 2007 (ukWaC) demonstrate a limited range of use by L1 speakers, such as in a request that contains irritation or irony, or an official request by an organisation.

In addition, CIA offers interlanguage researchers a window to examine and identify learners’ acquisition sequences throughout different stages of language learning or across different proficiency levels (Chen, 2010, p. 40). Data from corpora like the NICT JLE corpus and EFCAMDAT facilitate this kind of study, since they group speakers and writers by proficiency level.

2.2.3 Systemic Functional Linguistics

The analysis of the data in the present study uses the framework of Systemic Functional Linguistics (Halliday, 1994). According to Thompson (2013), the modality has three components: type, commitment, and responsibility. Type consists of two aspects: modalisation and modulation. Modalisation is the expression of the speaker’s attitude towards

what s/he is saying. It expresses a judgement about the certainty, likelihood or frequency of something happening or being. Modulation, on the other hand, is another scale of modality which makes a distinction between obligation and inclination, but this is not the target of the current research.

Another label for analysis is addresser's commitment, and this is the degree to which the addresser commits themselves to the validity of their propositions. For example, "in an academic paper a writer has to judge very carefully the extent to which he advances a claim as certain or as still open to doubt; while in making a request a speaker has to judge very carefully the extent to which she appears to be putting pressure on the other person" (Thompson, 2013, p. 73). The variables to show that commitment has three values: high, median, and low. For example, *I think* is regarded as median, whereas *I guess* is low in value (Eggins, 2004). Assessing commitment has critical implications for analysis.

As for responsibility, when the modality is expressed by the speaker/writer within the same clause as the main proposition, the term *implicit* is used, whereas if it is used in a separate clause, *explicit* is used (Halliday & Matthiessen, 2014, p. 181; Thompson, 2013, p. 75). In both cases, modality is expressed either subjectively or objectively: *I think* is subjective, since it directly marks the proposition as an individual's opinion, whereas *it seems* is objective.

Figure 2.1 from Thompson (2013, p. 77) provides a the summary of these technical terms. In this study, the commitment high, median, and low values are primarily used to categorise target epistemic devices so that analysis of use can be conducted by grouping them based on their level of certainty. For instance, *definitely* and *obviously* show strong certainty and are therefore classified as high value, whereas *possibly* and *kind of* convey weaker certainty, or rather uncertainty, and are categorised into the low value group. These will then be analysed within each group, as these similarities may reveal features of use by JLE and NS. Further details of these categorisations are presented in the relevant chapter.

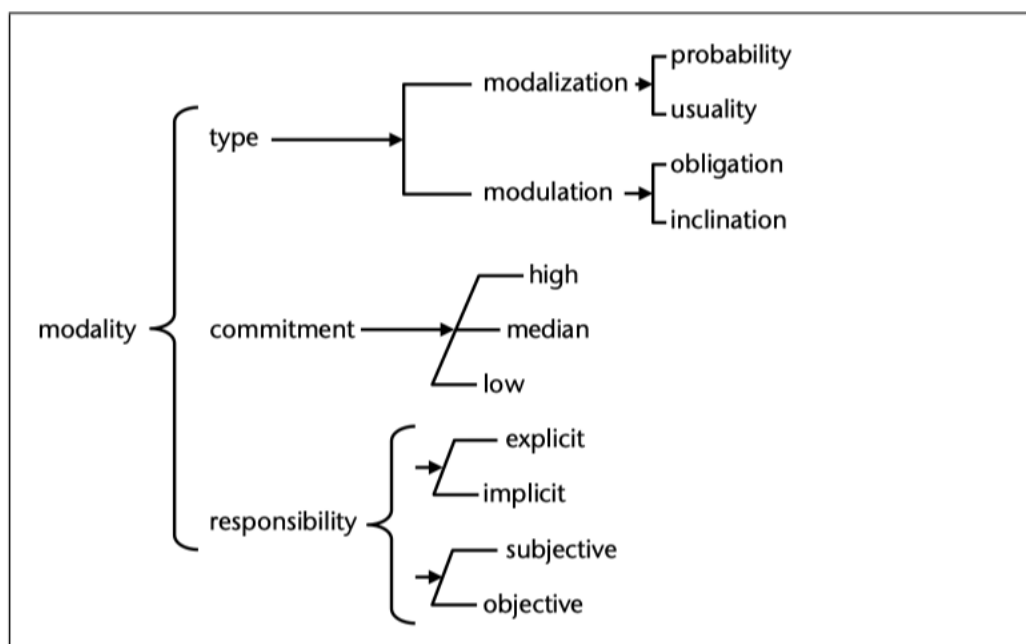


Figure 2.1 Systems of modality

2.3 Corpora

Two learner corpora are used for the current research. The first is the National Institute of Information and Communications Technology Japanese Learner English (NICT JLE) Corpus

(Izumi et al., 2004), which is used for the analysis of speech. This corpus is a relatively large spoken data corpus and has a sub-corpus containing the data from native speakers of American English. More detail is provided in section 2.3.1. The second corpus is the EF Cambridge Open Language Database (EFCAMDAT), which contains written data. There are original and refined versions of this corpus (Shatz, 2020) and the latter is used for this research. Further details and the advantages of its data for the current study are described in section 2.3.2.

2.3.1 Spoken Data

The data are extracted from the NICT JLE corpus for the spoken output. This corpus comprises the data collected through the standard speaking test (SST) conducted by a private company ALC corporation in Japan. The SST consists of five stages and three follow-ups between the stages as described in Table 2.1 below, cited from Watanabe (2014, p. 81).

This corpus is employed as it has 3 significant advantages for the current research: 1) it includes four types of tasks; 2) it is of a relatively large size for a spoken corpus; and 3) it contains L1 speakers' data collected through the same tasks.

To firstly address advantage 1), the corpus data collected through particular tasks suit the purpose of the current study. As shown in Table 2.1, the SST is a 15-minute, one-to-one interview test comprising four tasks: 1. Interview, 2. Description, 3. Role-play, 4. Narrative. There are topic-related interviews between tasks 2 and 3, 3 and 4, and 4 and 5. In this study, stages 1 and 5, and the follow-up for stages 2, 3, and 4 are counted as interviews.

In terms of 2), it is a relatively large spoken corpus, which contains approximately 1.3 million words. It is well-balanced because the data were gathered from 1,281 JLE (643 males and 638 females), and their average age is 29.5 (ranging from 15 to 70 years old). In this study, since the lower proficiency group does not frequently use epistemic stance markers, learner data are extracted from a total of 1,021 participants. Their proficiency level is described using the SST level, ranging from Level 1 for the lowest, to Level 9 for the highest.

Table 2.1 Details of five task stages of SST

Stage 1	Warm-up (an examiner and examinee exchange greetings and some information e.g. where s/he lives, etc.)
Stage 2	Description of a picture (the examinee is asked to describe a picture on the task card provided by the examiner. Topics: classroom, electric shop, skiing, etc.)
Follow-up for Stage 2	Interview related to the topic in Stage 2
Stage 3	Role-play (the examinee is asked to play a role, which is described on the task card provided by the examiner. Topics: invitation, shopping, travel, etc.)
Follow-up for Stage 3	Interview related to the topic in Stage 3
Stage 4	Narrative of a series of four or six pictures (the examinee is asked to tell a story following the sequence of the pictures on the task card. Topics included: car accident, department store, grocery store, movie, etc.)
Follow-up for Stage 4	Interview related to the topic in Stage 4
Stage 5	Closing (the examiner asks the examinee some questions, e.g. a plan after the SST ends. The test is closed with farewells.)

Finally in relation to advantage 3), the NICT JLE corpus has a subset collected from NS who performed the same tasks as JLE in the SST. The data contain 96,727 running words spoken by 20 NS, aged 20 to 25. Given one aspect of the current research focuses on the role of task effect, employing this subcorpus is advantageous in that the data collection is conducted through the same tasks.

```

<stage1>
<A>My name is <H pn="A's name">XXX01</H>. May I have your name?</A>
<B><F>Er</F> my name is <H pn="B's name">XXX02</H>.</B>
<A>O K. Can I call you <H pn="B's name">XXX02</H>?</A>
<B>Yes.</B>
<A>O K. Then, <H pn="B's name">XXX02</H>, where do you live?</A>
<B><F>Urr</F> <F>urm</F> I live from <H pn="others1">XXX03</H>,</B>
The task continues.

```

Figure 2.2 Part of text file00068

Figure 2.2 is a sample of the text in the NICT JLE corpus. The scene is at the beginning of stage 1, the interview task. There are two individuals throughout the SST test. The tag <A> indicates an interviewer, an examiner, whereas is a participant, a Japanese learner of English. In this research, the focus is on JLE solely and therefore, <A> is eliminated for the quantitative analysis, such as the frequency of occurrence of epistemic stance markers. Accordingly, this example is presented as an utterance by . However, both <A> and are cited together in cases where the sequence of conversation provides insights into the use of target linguistic items.

In preprocessing, lines starting with <A> and ending with were eliminated. Additionally, other metadata, including tags represented by <>, were deleted. The corpus contains several tags, such as <H pn>, which represents a proper noun, or <F>, meaning a filler word, as can be seen in Figure 2.2. These tags are removed to ensure they are not counted as tokens. Punctuation is left unchanged as it is important for the analysis of the data, but is not included in the token count. The results of this processing are compiled in Table 2.2. All computations of relative frequency from this chapter onwards use the numbers of tokens as detailed in Table 2.2.

Table 2.2 Number of tokens in the NICT JLE corpus

Proficiency level	Tokens	<i>n</i>
Level 4	465,446	482
Level 5	283,562	236
Level 6	171,041	130
Level 7	106,016	77
Level 8	84,121	56
Level 9	64,204	40
Total	1,174,390	1,021

The learner data comprises 1021 individuals spread across SST Levels 4 to 9. These levels are determined by the Standard Speaking Test (SST) and align closely with the Common European Framework of Reference for Languages (CEFR). Specifically, Levels 4 and 5 correspond to A2; Levels 6, 7, and 8 align with B1; and Level 9 matches B2 and beyond. This alignment is detailed in Table 2.3.

Table 2.3 CEFR-SST level comparison

CEFR-J	Level	CEFR	Current study
A2.1	4	A2	Elementary
A2.2	5	A2	Elementary
B1.1	6/7	B1	Intermediate
B1.2	8	B1	Intermediate
B2.1-C2	9	B2/C1	Advanced

2.3.2 Written Data

The refined version of the EF Cambridge Open Language Database (EFCAMDAT) is used in this research. This is the largest open-access L2 English learner database, with 1,180,310 texts authored by 174,743 learners from a variety of nationalities (Shatz, 2020). The EFCAMDAT texts are supplied by students enrolled in Education First's online English school, which offers 16 English proficiency levels associated with commonly used competency standards such as the Common European Framework of Reference for Languages (CEFR). Each level comprises eight courses, and upon completion of each subject, students are required to write a text that is subsequently graded. If the student earns a pass grade, they advance to the following unit; if not, the unit is repeated. The programme covers a range of subjects, described later in this section.

With regard to JLE in particular, the EFCAMDAT has 569,628 words from 9,149 scripts authored by 3,903 JLE, whose skill levels range from CEFR A1 to C1. The breakdown of the tokens per proficiency level is provided in Table 2.4. It should be noted that the token count excludes symbols, punctuations, and numbers with the identical criteria with the spoken data mentioned in the previous section. The number of scripts includes the same JLE in case of them shifting to the next level. For example, a learner can start at A2 level and carry on with the course to B1 level, and in this kind of case the individual can submit the writing again at the higher level. Therefore, several learners may submit their writing multiple times in different levels.

Table 2.4 Japanese learners in EFCAMDAT

Proficiency Level	Tokens	<i>n</i>
A1	111,265	1,611
A2	186,906	1,118
B1	165,710	868
B2	77,392	256
C1	28,355	50
Total	569,628	3,903

The EFCAMDAT may be regarded as a task-based corpus, since L2 writers work towards a non-linguistic outcome. That is, the purpose of the test is not directly to answer grammatical questions, such as forming a sentence in the past tense. Instead, writers use language to achieve practical goals, such as writing a complaint letter or applying for a job (Alexopoulou et al., 2017). In Chapter 6 of the current research, the influence of these tasks on the use of epistemic devices is examined. However, since the EFCAMDAT lacks an official task classification, it has been manually categorised into three task types for this study: descriptive tasks, narrative tasks, and speech act tasks. Table 2.5 provides examples of each task type.

Table 2.5 Examples of task types

Task type	Example of topic	Example of instruction
Descriptive	Presenting trends	Write a description of the trends in the graph. Write 100-150 words. Type your answer into the input box.
Narrative	Describing a terrifying experience	Your friend Meg has had a terrifying day. After reading her email you decide to write to a local newspaper, summarizing her story. Write the summary below. Write 100-150 words. Type your answer into the input box.
Speech act	Requesting a bank loan	Write a formal letter to the bank requesting the loan to open a mortgage explaining why you want to buy the house and how you intend to pay back the loan. Write 100-150 words. Type your answer into the input box.

Examples from level 10 (CEFR B1)

Distinguishing between descriptive and narrative tasks is common in task analysis and has been employed in previous studies, including Alexopoulou et al. (2017). These classifications aid in comparing the current written data with the spoken data, as the NICT JLE corpus categorises tasks similarly as descriptive and narrative tasks. The third category, the speech act task, is an original classification for this study. The criterion for this category involves tasks that require a speech act, such as making a request, an apology, or giving advice. This task shares similarities with the roleplaying task in the NICT JLE corpus, as both require responses to similar types of tasks, such as requesting.

Occasionally, a precise classification is challenging, as some tasks contain overlapping elements. Nevertheless, they are carefully classified based on the instructions or task prompts available online². As previously mentioned, there are 16 stages according to proficiency level, with each stage comprising eight units, each concluding with a writing test. Consequently, the EFCAMDAT encompasses a total of 128 topics. Upon categorising these 128 topics into the three types of tasks, the distribution of each task type is as shown in Table 2.6.

Table 2.6 Task type in Contents of descriptive and narrative task in EFCAMDAT

Task type	Stages																Total
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
Narrative	4	2	1	1	1	1	2	1	1	1	0	1	0	2	3	1	22
Descriptive	4	5	5	5	5	4	3	6	4	5	6	5	6	3	4	6	76
Speech act	0	1	2	2	2	3	3	1	3	2	2	2	2	3	1	1	30

² https://philarion.mml.cam.ac.uk/task_screenshots/EFwrittenTasks.xml

2.3.3 Reference data of native speakers of British English

2.3.3.1 Demographic data

As a learner corpus, the EFCAMDAT does not include data from L1 speakers. Hence, I collected reference data from L1 speakers through six writing tasks via Online surveys³. These reference data are exclusively utilised in Chapter 6, which focuses on the effects of tasks. The collection consists of 17,225 words across 156 texts, authored by 26 native speakers of British English. Table 2.7 shows the composition of this dataset.

Table 2.7 Demographic breakdown of survey participants

Participants	Gender	Age
26	Female	20
		Min. 19
	Male	6
		Med. 37.5
		Max. 69

Table 2.8 details the breakdown of tokens per task. The following sections describe the design of the online writing tasks and present examples from submissions by the participants.

Table 2.8 Distribution of tokens across six tasks

Task1	Task2	Task3	Task4	Task5	Task6	Total
2,103	3,856	2,174	1,864	4,037	3,170	17,225

2.3.3.2 Justification for task selection and design

The reference data, written by L1 speakers, are collected using the writing task instructions detailed in Table 2.8, adapted from the task instructions that are originally available online. Due to copyright restrictions that prevent the use of official task prompts and their supporting materials, I have added original supporting materials. For instance, a visual representation of an email from John is included in Topic 3, and a reference document explaining claustrophobia, crafted based on information found on the web⁴, is provided in Topic 5. To ensure clarity, slight modifications have also been made to the instructions. These efforts are made to ensure that the task design is as close to the original as possible.

Table 2.9 Topic for the writing task online

Topic 1	You are an online counselor. Write an email to Alex. Give her a plan to help her fight her shopping addiction. Type into the input box. When you're finished, click 'Next.' Write 50-70 words.
Topic 2	You applied for an online study program and have received news of your application by email. Read the email and reply, answering the request for specific information. Type into the input box. When you're finished, click 'Next.' Write 150-180 words.

³ <https://admin.onlinesurveys.ac.uk/>

⁴ Retrieved on 15 December 2021: <https://www.talkspace.com/mental-health/conditions/claustrophobia/>

Topic 3	One day at your office, you receive the following email from John. You read it and realize that he cannot send this email to a client. Rewrite it in a style appropriate to business correspondence. Type into the input box. When you're finished, click 'Next.' Write 70-100 words.
Topic 4	Write the email asking for leave to Angela Sun in the Human Resources department. Type into the input box. When you're finished, click 'Next.' Write 70-100 words.
Topic 5	You are Ian's friend and colleague. He suffers from claustrophobia and is wondering if he should quit his job. Read the leaflet and write an informal email to Ian encouraging him to keep his current job. Include a description of claustrophobia symptoms and some advice on how to cope with the phobia. When you're finished, click 'Next.' Write 100-150 words. Type your answer into the input box.
Task 6	Write the email to Graham, politely declining his invitation. Make sure that you use polite phrases, explain you can't come because you have a previous engagement, and invite him and his wife next week instead (suggest some possible evenings). Write 100-150 words. Type your answer into the input box.

The writing task employs only the speech act task due to limited resources, a decision justified by the anticipated use of many epistemic stance markers within such tasks. Furthermore, a primary objective of this research is to explore how epistemic stance markers, serving as either downtoners or magnifiers, function within interactive tasks across both spoken and written modalities. These markers are also expected to play a significant role in this task type.

The topics outlined in Table 2.9 adhere to specific criteria: the nature of the task, the writing format, and the level of task complexity. Firstly, as previously mentioned, speech acts, including requests or advice, are intricately linked to the use of epistemic stance markers. Consequently, selecting topics that entail writing apologies, requests, and advice is a logical decision. Secondly, the format of email or letter has been chosen. Various formats exist, such as emails, letters, advertising blurbs, and CVs, to cite a few examples. Opting consistently for the same medium is a crucial aspect of the research design; hence the exclusive use of emails or letters. Thirdly, the task complexity is maintained at a medium level. Solely employing tasks at an advanced level would yield rich and complex linguistic data. However, as the majority of Japanese learners fall within the elementary to intermediate level bracket, comparing data across levels becomes problematic. Given these considerations, opting for tasks at the intermediate to upper-intermediate level is deemed appropriate.

2.3.3.3 Examples of the tasks

Examples written by NS in the online writing task described above are provided below in Figure 2.3.

Hi Ian,

I am so sorry to hear about how you're feeling. *I know* you said you feel like you should quit your job, but there are ways you can get through this situation. Claustrophobia makes it hard to feel like you can cope but there are ways to manage this. *I know* a lot of people find therapy helpful, and a therapist can teach you different strategies such as deep breathing and vizualisation (*sic*), so you can get through the anxiety when you are feeling claustrophobic. Do you want me to help you find a therapist? Love, Ann (22_5)

Dear Ms Anderson,

I do apologise for my late response to your earlier email. I'm afraid that we have an issue with the proposed shipment from next Monday and we will need to reschedule. We are of course working on organising the shipment for as soon as is feasible. *Could we perhaps* organise a call to discuss the challenges and how we can work through them together? I look forward to catching up with you soon. Best regards, John Smith. (4_3)

Figure 2.3 Examples of the writing response by NS

In the first passage, topic5 is completed by a NS writer. Task complexity is high as the writer is required to give some advice to the recipient who is colleague suffering from claustrophobia. The writer shows understanding of the situation a colleague faces by using epistemic marker *I know* twice in the passage, which contributes to the smooth flow to the suggestion in the end of the passage.

In the second passage, the writer responds to the topic 3, which makes a request to the client in order to have a meeting to discuss the issue regarding a shipment delay. The task is classified as median in the task complexity. Although they are not target expressions, several hedging devices are used by the writer such as *I'm afraid*. It leads to the request by using *could* along with epistemic adverb *perhaps*.

Table 2.10 The frequency of epistemic devices by NS

Epistemic devices	Raw frequency	Relative frequency
could	26	150.9
may	18	104.5
perhaps	17	98.7
I know	16	92.9
might	15	87.1
maybe	12	69.7
I think	12	69.7
can	8	46.4
actually	3	17.4
I believe	3	17.4
possibly	2	11.6
probably	2	11.6
certainly	1	5.8
definitely	1	5.8
I guess	1	5.8
obviously	1	5.8
seem	1	5.8

Per ten thousand words

Overall, the target epistemic devices are used by L1 participants as shown in Table 2.10 above. Non-target expressions are eliminated from the data such as *may* used as a noun, or deontic use of *can* e.g. *Can you ...?* or *think about*. This process is detailed more in the next section.

It appears that modal verbs such as *could* and *may*, along with *perhaps* as illustrated in Figure 2.3, are frequently used by NS. Such strategies, employing modal verbs or adverbs as downtoners in making suggestions, are anticipated to be less commonly used by JLE. Hence, despite their limited size, amounting to a total of 17,225 running words, these data are deemed appropriate. They are employed primarily for a qualitative comparison with JLE in Chapter 6: Task Effects, Section 4: Comparison with Native Speakers of English in Written Contexts.

2.4 Procedure

The list of target epistemic stance markers is adapted from Gablasova et al. (2017) as shown in Table 2.11. This is because the list covers the epistemic forms, which are frequently used by L2 users. Furthermore, the adoption of the same list makes a comparison of the results possible. In their list, epistemic modal verbs are not included because a preliminary analysis “revealed that (interactive) speech made deontic and epistemic modality difficult to distinguish reliably” (Gablasova et al., 2017, p. 621). In this study, however, the epistemic modal verbs *may*, *might*, *can* and *could* are added to the list as they play an essential role in taking an epistemic stance and therefore previous studies include them (Biber, 2006; Fordyce, 2009; Nakayama, 2021).

Table 2.11 List of epistemic devices

<u>Adverbial expressions in Chapter 3</u> maybe; kind of; actually; probably; sort of; perhaps; obviously; definitely; surely; possibly; for sure; certainly; apparently; no doubt <u>Verbal expressions in Chapter 4</u> I @ think; I @ know; I @ mean; I @ believe; I @ guess; seem; seems; I @ suppose; appear; appears; I @ bet; I @ doubt; I @ suspect <u>Modal expressions in Chapter 5</u> (added by the author) can; could; may; might
--

*In the search terms, @ symbol represents zero to two words to include modification or negation of epistemic phrases (e.g. “I am totally convinced, or I don’t know).

Regarding verbal expressions, second person and third person forms are excluded from the current study as they “do not (necessarily) reflect the personal stance of the speaker/writer” (Biber, 2006, p. 99). Epistemic nouns such as *conclusion* or *proposal* are also excluded because previous research suggests they occur primarily in academic writing (Gablasova et al., 2017), which is not a target in the current study.

The target expressions were extracted from the corpora using R software. After text-cleaning such as taking out the tags, the expressions in Table 2.9 were extracted in the format of concordance lines and put onto a spreadsheet to be examined. The Tidyverse package (Wickham et al., 2019) was employed for data preprocessing and the quanteda package (Benoit et al., 2018) was utilised to conduct corpus analysis.

2.4.1 Categorising expressions: sorting *kind of* / *sort of*, *I think*, and modal verbs

Some tokens of the target expressions *kind of*, *sort of* and *I think* in all three word-classes have been excluded from the research where they do not express epistemic meaning. For example, noun use and non-epistemic use of *kind of* / *sort of* are excluded. The detail of the procedure employed to exclude these is discussed in the subsequent section. To conduct this procedure, *kind of* and *sort of* uses were tagged as either nouns or adverbs in the context by using a natural language processing library, spaCy in Python (Honnibal et al., 2021) as per Figure 2.4. The tagged examples were then carefully examined; nouns were eliminated and adverbs were counted. Taking account of syntax in this way helped me to judge whether a use was epistemic or not, which is more difficult if only semantic analysis is employed.

sentence	epistemic	Tag
in in a electrical store , and a store clerk kind of showing him where to go and what to look at	1	['ADV']
to look at . Urm there's a bunch of different kind of electrical appliances . Like ur regular cameras , video c	2	['NOUN']
the northwest side of the town . Urm it actually kind of looks like Amsterdam . But urm the way it's like	1	['ADV']

Figure 2.4 Examples of tagging 'kind of' to distinguish between adverbial and noun use

In calculating the frequencies of *kind of* and *sort of*, the following types of non-hedging instances, exemplified below, are excluded. In (1) and (2), *kind of* is used as a noun. As the epistemic use of *kind of* and *sort of* is defined as occurring in adverbial expressions (Biber et al., 1999), they are not included. It is also synonymous with *type of*. In (3), *kind of*, which could be part of a noun phrase. In (4), it is used to mean 'like.'

- (1) I don't know what *kind of* difficulty exactly she had.
- (2) I thought that *kind of* idea.
- (3) I have *kind of* reunion tonight. My university friends reunion.
- (4) He is *kind of* a father of her.

In sum, the following a) and/or b) are criteria to remove examples from the data set for analysis.

a) non-adverbial expressions

a/the/any/this/that/these/ those *kind of*
very *kind of* you

b) use synonymous with *type of*

Epistemic stance forms are used to show certainty or uncertainty towards a proposition, and therefore adverbial expressions such as (5) are classified as epistemic forms in this study. *A kind of* is usually part of noun expression but in (6), the context indicates that this Japanese learner of English means 'it's *kind of* hard', and the indefinite article *a* can be ignored. *Kind of* also occurs within noun phrases in (7) and (8), but they remain in the data as they are used epistemically (Poos & Simpson, 2002, p. 8).

- (5) So it's *kind of* boring for me.
- (6) So it's a [*sic*] *kind of* hard.
- (7) But everyone has to wear a ski uniform *kind of* thing.
- (8) I personally not like going to camping or that *kind of* stuff.

There are 26 instances of *some kind of*, which is considered a non-epistemic form because of the criteria above. However as Poos and Simpson (2002) argue, some examples may show epistemic use. (9) and (10) provide examples of this kind.

(9) I'm not sure but some *kind of* restaurant. (non-epistemic)

In (9), the speaker is sure it is a type of restaurant and not sure what it is exactly. In this case, the role of *kind of* does not seem epistemic. On the other hand, in (10), the person is not sure how to explain what s/he is talking about and *some kind of* is directly applied to the word that s/he is not sure about. Therefore, this is classified as an epistemic use.

(10) Not meal coupon but some *kind of*, what should I say tour tick... (epistemic)

Table 2.12 Distribution of *kind of* / *sort of* by JLE

Word class	Spoken		Written	
	kind of	sort of	kind of	sort of
Adverb	259 (18.3%)	34 (45.9%)	13 (5.4%)	0
Noun	1151	40	210	4
Adjective	7	0	17	0
Total	1417	74	240	4

After manual data analysis, as Table 2.12 above shows, 18.3% of *kind of* in spoken data, and 45.9% of *sort of* are included as adverbial expressions of epistemic use. In written mode, 5.4% of *kind of* are included, and all occurrences of *sort of* are excluded.

In the category of epistemic verbs, tokens of *I think* also need to be manually checked, since this lexical item can be used in an epistemic way or not, depending on the context. Although delimiting the examples of epistemic modality is not an easy task, it is vital to eliminate the irrelevant ones, especially as *I think* is the by far most frequently used phrase in the dataset. In the end, a total of 50 examples, or 1.2%, were eliminated from the data. The following cases, in (11) to (14), represent typical uses which describe the cognitive act rather than showing epistemic use. Conversely, in written data, comparable examples are not found. These results are reflected in the results in Chapter 4.

(11) Can *I think* for a while? (file00669_5_2)

(12) And yeah and yeah, that's I what *I think* when I buy skirt. (file01208_7_7)

(13) Every day, I *I think* of the the business every time. (file00847_4_7)

(14) So *I think* about their preference. (file01027_5_8)

The target epistemic devices extracted after preprocessing are counted and displayed in Table 2.13. Frequency is given per 100,000 words. The figures demonstrate that epistemic markers are used more frequently in the spoken corpus, and difference by level is generally larger as mean and standard deviation (*sd*) show. The studies presented in Chapters 3 to 6 were conducted based on this frequency measure. Some additional procedures for modal verbs will be addressed in Chapter 5.

Table 2.13 Distribution of target epistemic devices in the corpora

NICT JLE				EFCAMDAT			
Level	Frequency	Mean	<i>sd</i>	Level	Frequency	Mean	<i>sd</i>
4	593.2	6.1	4.3	A1	199.5	2.1	4.3

5	791.7	9.7	7.6	A2	242.9	2.8	4.6
6	1185.7	15.6	9.3	B1	482.8	2.2	3.9
7	1378.1	19	9.2	B2	608.6	2.5	4.2
8	1403.9	21.1	12.1	C1	592.5	3.5	5.2
9	1612	25.9	9.9				

2.4.2 Procedure of the current research

Utilising the data outlined thus far, the current research is presented in the following sequence. Chapter 3 examines the use of epistemic adverbs; Chapter 4 delves into epistemic adverbs further; Chapter 5 investigates modal verbs; and Chapter 6 explores the impact of tasks on the usage of these epistemic stance markers. As Chapters 3 to 5 employ a similar procedure, the methodology of Chapter 3 is described initially, followed by that of Chapter 6.

Chapter 3 investigates epistemic adverbs via the following procedures. Initially, the usage of epistemic adverbs by Japanese learners is analysed. This begins with the overall usage pattern by applying the commitment framework in SFL, categorised as high value, median, and low, as detailed in section 2.2.3 of this chapter. The analysis then progresses to the usage pattern by individual epistemic adverbs, focusing on the characteristic features or discrepancies among different proficiency groups. In the second part of the chapter, an identical procedure is applied to writing data from JLE to analyse the distinctions between spoken and written modes. In the third section, usage data from native speakers of American English are analysed and compared with the findings from JLE. Given that only the NICT JLE corpus comprises the dataset of NS, this comparison is exclusively based on spoken data. Finally, the findings are discussed, integrating these datasets. In Chapters 4 and 5, the same procedure as in Chapter 3 is repeated for the analysis of epistemic verbs and modal verbs, respectively.

Chapter 6 is distinct from the previous three chapters as it concentrates on the impact of task on the usage of epistemic devices by JLE and NS. This chapter is divided into three sections. Initially, the spoken data is analysed utilising a mixed-effects model, detailed in section 2.5.1. The model aims to examine how proficiency level and task, and interaction between these factors, affect the frequency of epistemic device usage by JLE and NS. Subsequently, the written data is also processed using a mixed model. However, due to the absence of NS data in the writing samples, the mixed model analysis is conducted solely on the JLE data. In the final section, the usage of epistemic devices in written form is analysed in comparison with the written data of native speakers, as presented in Table 2.7. Due to the limited size of the self-collected data, the comparative analysis in this section is conducted qualitatively and independently, rather than incorporating it into the mixed-effects model used in the preceding section.

Across Chapters 3 to 6, a variety of statistical tests are employed for quantitative analysis, and these are explained in section 2.5. Notably, the rationale for selecting a mixed-effects model for use in Chapter 6 is elucidated here.

2.5 Statistics

To analyse the differences among JLE groups in the frequencies of epistemic devices, and the differences between JLE and NS, statistical tests were conducted using R studio, in a way similar to the text analysing process outlined above. This section describes the statistical procedures mainly used in each chapter.

In Chapter 3, Welch's t-test is employed to test the difference between the advanced group of JLE and NS. Welch's t-test is used to assess the mean frequency of two distinct groups where the data are not necessarily assumed to be evenly distributed. The justification

for employing this parametric test stems from the relatively large sample size. The prevalent use of epistemic adverbs among JLE is predominantly observed within the most advanced group. Hence, in most target instances, it is considered preferable to compare the mean frequency of epistemic adverb usage between this top-tier group of JLE and NS. The results are reported with test statistic, p-value and effect size, Cohen's *d*.

In Chapters 4 and 5, comparisons of data across JLE groups and between JLE and NS are conducted using the Kruskal-Wallis tests, followed by the Wilcoxon rank-sum test (also known as the Mann-Whitney U test) as post hoc tests (Field, Miles, & Field, 2012). Unlike in Chapter 3, epistemic verbs and modal verbs are not exclusively used most frequently by the advanced group; sometimes, they are utilized more by intermediate proficiency groups. Hence, it is rational to extend comparisons across a wider range of groups, rather than solely between the highest level of JLE and NS. These tests are designed to detect statistical differences among the five groups: JLE Levels 6, 7, 8, 9, and NS. Levels 4 and 5 are intentionally omitted to ensure robustness of the statistical analysis, as their large number of participants could skew the balance of the sample population (see Table 2.2). Furthermore, given the involvement of wider groups, where some exhibit low frequency, this non-parametric approach is selected for the study (Levshina, 2015, p. 179). The primary aim of the Kruskal-Wallis test is to determine if there is a statistically significant difference in at least one of the groups. To pinpoint specific pairs of groups with significant differences, post hoc tests with a Bonferroni adjustment are applied. The results are reported with the test statistic (*W*), p-value (*p*), and effect size (*r*) – the latter being the rank biserial correlation coefficient (Brezina, 2018, pp. 196-197). Additional tests required to supplement the analysis in each chapter are described within those chapters.

In Chapter 6, the Generalised Linear Mixed Model (GLMM), also referred to as Mixed Effect Modelling (MEM), is employed to analyse the impact of the task on the usage of epistemic stance markers. The subsequent section describes the selection of the formula employed in Chapter 6. The primary advantage of this methodology lies in its ability to encapsulate both random and fixed effects. In essence, the model is capable of accounting not only for the influence of fixed effects, such as proficiency level, on the frequency of epistemic device use but also for random effects, which denote individual variations identified through identification of learners. Specifically, formula (15) outlines the MEM for spoken data used in Chapter 6, whilst formula (16) is designated for written data. In (15), *DOC_ID* symbolises the document identification for each learner, serving as a predictive variable along with both slope and intercept, thereby allowing the model to reflect individual discrepancies.

$$\begin{aligned} (15) \text{ ED_FREQ} &\sim \text{LEVEL} * \text{TASK} + (1 | \text{DOC_ID}) \\ (16) \text{ ED_FREQ} &\sim \text{CEFR} * \text{TASK} + (1 | \text{LEARNER_ID}) \end{aligned}$$

The reason for this model selection is that the primary purpose of this research is to investigate the effect on the use of epistemic devices across the JLE's proficiency level and task and its interaction. The proficiency level of learners is vital for the research, as it is directly relevant to consider the development between one proficiency group and another. Technically, every variable in the data may be included such as age, gender, experience of study abroad. However, the most relevant variables to the study are selected to focus on the purposes above and keep readiness to interpretation. Therefore, the model includes proficiency, task and their interaction.

In addition, the models showing an error exemplified in Figure 2.5 are avoided as the it suggests unfitting the model.

```
lmer(ED_FREQ ~ CEFR * TASK + CEFR * TOPIC + (1 + CEFR | LEARNER_ID)
REML=FALSE, control=lmerControl(optimizer="bobyqa"), data = ef1)
#Error: number of observations (=1040) <= number of random effects (=1388) for term (1
+ CEFR | LEARNER_ID); the random-effects parameters and the residual variance (or
scale parameter) are probably unidentifiable
```

Figure 2.5 Error in model formula due to excessive random effects

Finally, the dataset utilised for this study has been carefully selected, specifying that the data encompass texts exceeding 100 words each. This approach aligns with preceding research, such as that conducted by Pyykönen (2023). It is noted that the original texts within both the NICT JLE corpus and the EFCAMDAT may contain fewer words, especially in instances where the speaker or writer produces limited output. Therefore, setting the threshold at over 100 words enhances the model's fitness. To verify the validity of this methodology, both the coefficient of determination (r-squared) and the Akaike Information Criterion (AIC) are employed as evaluative measures. The AIC serves as an indicator to judge the model's predictive accuracy concerning the response variable, where a lower AIC value signifies a model with better predictive capability. The model exhibiting an AIC of 9776.9, as shown in Figure 2.6, is selected.

```
> summary(model18, correlation=FALSE)
Linear mixed model fit by maximum likelihood ['lmerMod']
Formula: ED_FREQ ~ LEVEL * TASK + (1 | DOC_ID)
Data: dat6
Control: lmerControl(optimizer = "bobyqa")

      AIC      BIC logLik deviance df.resid
9776.9 9851.0 -4876.4 9752.9    3534
```

Figure 2.6 Model summary including fit indicators including AIC

To compare these indicators across other potential models, a one-way analysis of variance is applied, detailed in Figure 2.7. It is evident upon comparison that the selected model's AIC, as depicted in Figure 2.6, is lower (9776.9 vs. 24082 and 23977), indicating superior functional performance. Another evaluative measure, the r-squared value, is discussed in Chapter 6.

```
anova(model1, model2)
Data: dat1
Models:
model1: ED_FREQ ~ LEVEL * TASK + (1 | DOC_ID)
model2: ED_FREQ ~ LEVEL * TASK + (1 + LEVEL | DOC_ID)
      npar  AIC    BIC logLik deviance Chisq Df Pr(>Chisq)
model1  18 24082 24206 -12023   24046
model2  20 23977 24115 -11968   23937  109.42 2 < 2.2e-16 ***
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 2.7 Comparison of model fits using AIC

In the case of the written model, a similar procedure is conducted and the final model, which is used in Chapter 6 is selected as shown in Figure 2.8. The model using the same formula as the spoken model indicates AIC 2270.9 as shown in Figure 2.8, which shows the best AIC rate among preliminary searches. All these considerations lead to the model employed, displayed in (15) and (16).

```
> summary(ef_fit1, correlation=FALSE)
Linear mixed model fit by maximum likelihood. t-tests use Satterthwaite's method
[lmerModLmerTest]
Formula: ED_FREQ ~ CEFR * TASK + (1 | LEARNER_ID)
Data: ef1
Control: lmerControl(optimizer = "bobyqa")

      AIC      BIC  logLik deviance df.resid
2270.9 2340.1 -1121.4 2242.9    1026
```

Figure 2.8 Model summary for written data including AIC indicator

2.6 Conclusion

This chapter sets out the data and methodology employed in this research. Adopting a corpus-based approach, the study investigates the usage of epistemic stance markers —comprising adverbs, verbs, and modal verbs — by Japanese learners of English. The analytical framework focuses on the high, median, and low values within Systemic Functional Linguistics (SFL). Furthermore, the findings from the Japanese learners are compared with those of native English speakers.

Two corpora are used for the research. One is a spoken corpus, the NICT JLE corpus and the other is the refined version of EFCAMDAT for researching writing usage. The spoken corpus has relatively large tokens, whose data are collected through the four tasks suitable for analysing the use of epistemic devices in non-academic conversation. Additionally, it contains NS data collected through the same tasks. Therefore, employing this corpus has advantages for the current research. EFCAMDAT is used to analyse the writing context. This is also suitable for learners' use of epistemic devices in non-academic contexts. However, it does not include NS data, and therefore a small corpus has been built by collecting NS data through an online writing task, using prompts based on that of the written corpus. The validation of the data is also confirmed by showing the number of usages of epistemic devices contained in the data.

As demonstrated in section 2.4, careful consideration was given to the selection of target epistemic forms. Examples of expressions, such as *kind of / sort of* and *I think*, are presented to show how and why some tokens were excluded from the dataset. Manual checking was critical to ensure that the data includes only use of epistemic modality by JLE, since some of the target forms are frequently used in non-epistemic fashion and distinguishing them automatically using software is not feasible.

The statistical approach applied to the study is discussed in section 2.5. In the first half, the statistical tests used in Chapters 3, 4 and 5, to test the difference between groups among JLE and JLE/NS are described. In the latter half of the section, a mixed effect model used for Chapter 6 is described and I explain the choice of both spoken and written models.

The chapter that follow explore epistemic devices in each word class, beginning with epistemic adverbs in Chapter 3.

Chapter 3 Epistemic adverbs

3.1 Introduction

This chapter explores the spoken and written use of adverbial epistemic stance markers by Japanese learners of English (JLE). Used alongside cognitive verbs, epistemic adverbs are one of the most frequently employed epistemic forms, which realise epistemic meaning. Epistemic adverbs are used to convey two opposite directions of modality. One is to show uncertainty and the other is to convey certainty. The following examples (1) and (2) demonstrate how modality is conveyed through epistemic adverbs.

- (1) He has *probably* been with his company for 13 years and in his present job for four.
- (2) It was *definitely* a case of exploiting child labour.

(Biber et al., 1999, p. 972)

One critical function of these epistemic adverbs is to convey the speaker's or writer's certainty or uncertainty and thereby to reflect their knowledge, beliefs, or attitudes. Taking *probably* as an example in (1), *Oxford English Dictionary (OED)* defines it as a 'sentence adverb qualifying a whole statement: almost certainly; as far as one knows or can tell; in all probability; most likely.' Therefore, in this context, as far as the speaker knows, the man has been working with his company for 13 years. On the other hand, *definitely* in (2), which is defined as '[i]n a definite manner; determinately, precisely' (*OED*), functions to intensify the assertion of the utterance. These examples illustrate how such adverbial expressions can indicate varying degrees of certainty or uncertainty.

Furthermore, adverbials can function interpersonally as markers of politeness, for example, hedging a statement, as in (3) below.

- (3) they make you make you look *sort of* intelligent *sort of* (BNC 1994, male, age 44)
(Reichelt, 2021, p. 567)

The speaker uses epistemic adverbs as a type of politeness marker. It is used to protect an interlocutor's positive face, which is defined as the "need to be desirable, ratified, understood, approved of, liked, or admired by others" or negative face of the opponent, which is the "desire to be unimpeded by others" (Culpeper et al., 2018, p. 45).

These functions of epistemic devices are crucial. However, second language (L2) learners use a rather limited range of epistemic devices, and epistemic adverbs are no exception. Fung and Carter (2007) indicate that L2 learners use *sort of* or *actually* less frequently than native speakers of English (NS). For JLE, findings of Fordyce (2009) show that *maybe* is the second most frequently used epistemic marker, after the verbal expression *think*, by low to intermediate proficiency level university students. These students used *maybe* 23 times, *actually* 5 times, *probably* and *possibly* once each, and did not use *definitely* and *perhaps* at all. These data were extracted from a small spoken corpus collected through 10-minute interviews. In addition, *maybe* is used more in the interviews than in a written context: 5 *maybe*, 5 *actually*, 2 *definitely* and *possibly*, 1 *perhaps*, and 0 *probably*. While the size of the corpora is limited, these results indicate the tendency of use among JLE, which is comparable to the current study.

As the main focus of this research is on the use of epistemic markers of interlanguage, i.e., the language spoken and written by JLE, the current research employs the list of target expressions from a previous second language acquisition (SLA) study (Gablasova et al., 2017). The full list of these expressions is provided in Section 2.4 in Chapter 2; however, Table 3.1, showing only adverbial expressions is repeated here for convenience.

Table 3.1 Target adverbial expressions

<i>maybe; kind of; actually; probably; sort of; perhaps; obviously; definitely; surely; possibly; for sure; certainly; apparently; no doubt</i>

A subset of the NICT JLE corpus (Izumi et al., 2004) has been used to analyse the spoken language. The learners' data comes from 1,021 learners who belong to proficiency Levels 4 to 9. For written language, the Japanese data from the refined version of the EF Cambridge Open Language Database (EFCAMDAT, Huang et al., 2017; Shatz, 2020) is employed. To analyse the data, RStudio and the Tidyverse package (Wickham et al., 2019) are employed for data preprocessing and the quanteda package (Benoit et al., 2018) is utilised to conduct corpus analysis.

To analyse the data, the framework of Systemic Functional Linguistics (SFL) is applied to the present study. For the classification of the target adverbs, Eggins (2004, p. 173)⁵ and Halliday and Matthiessen (2004, pp. 620-622) have been referred to. The rest of the items have been categorised by the author based on *value*, which suggests *high* as certain, *median* as probable, and *low* as possible (p. 620), as discussed in Section 2.2.3. Table 3.2 presents the classification for adverbs.

Table 3.2 Classification of adverbs based on value in SFL

Value	Adverb	Example
High	<i>certainly, obviously, definitely, surely, for sure, apparently, no doubt</i>	I just <i>certainly</i> couldn't just catch, you know. (file00838_3_8) ⁶
Median	<i>perhaps, probably, maybe</i>	If I miss the meeting, <i>probably</i> I will miss my business chance. (file00981_3_7)
Low	<i>possibly, kind of, sort of, actually</i>	<i>Actually</i> , I don't have it. (file00482_8_5)

In this chapter, the following research sub-questions are addressed with regard to adverbs.

1. What is the developmental trajectory in use of epistemic adverbs used by JLE across the different proficiency groups?
2. How are epistemic adverbs used in the spoken and written data?
3. Is there any difference in the usage patterns of epistemic adverbs between JLE and NS?

The dataset encompasses Levels 4 to 9 for speaking and the Common European Framework of Reference for Languages (CEFR) Levels A1 to C1 for writing. It is anticipated that a

⁵ *Certainly, probably, possibly* (Halliday & Matthiessen, 2004, p. 622), *perhaps* (Eggins 2004, p. 173)

⁶ File name shows that file or learner's id by file 000 and after the first underscore, the number shows the proficiency level of the person and the last number shows the stage id.

general pattern will emerge, showing an increase in the use of epistemic adverbs as the proficiency level rises. Nonetheless, individual words may exhibit distinct trajectories. Further, when the advanced JLE groups are juxtaposed with native English speakers, it remains to be seen which items from the list are utilised in similar or disparate ways. Finally, following Biber et al. (1999)'s observations, these markers are expected to appear more frequently in the written data, but the manner in which they differ from spoken data needs elucidation. These aspects will be explored from a pragmatic perspective.

The findings are presented across three sections. First, Section 3.2 details the analysis of the spoken data. This is followed by an examination of the written data in Section 3.3. Finally, a comparative analysis with NS data is undertaken in Section 3.4.

3.2 Results and analysis of the JLE spoken data

3.2.1 Overview of the results in spoken data

Table 3.3 presents the frequency of each epistemic adverbial marker, as extracted from the NICT JLE corpus across the proficiency Levels 4 to 9. It corresponds to CEFR A1 to C1 level. As previously mentioned in Chapter 2, non-epistemic uses of *kind of* and *sort of* have been manually excluded from the analysis. It is noticeable that *maybe*, *actually*, and *probably* are the most frequently employed adverbial markers across all proficiency groups. In this section, findings based on the NICT JLE corpus are delineated, initially providing an overall description of JLE data, and subsequently discussing the results in the order of high, median, and low value categories.

Table 3.3 Overall frequency of the target epistemic markers across groups

adverbs	Lv4	Lv5	Lv6	Lv7	Lv8	Lv9
maybe	190.1	254.3	275.4	220.7	237.8	244.5
actually	27.7	87.8	147.9	196.2	244.9	115.3
kind of	5.8	11.3	26.3	66	55.9	59.2
probably	9.2	15.9	32.2	62.3	65.4	85.7
sort of	0.2	1.1	0	2.8	15.5	21.8
perhaps	9	2.8	3.5	0	0	9.3
definitely	0.2	1.1	5.8	2.8	5.9	3.1
surely	1.3	1.4	2.3	1.9	2.4	0
certainly	0.4	2.1	0.6	0.9	4.8	0
obviously	0	0	2.3	0	4.8	9.3
possibly	0.4	0	1.8	0	1.2	1.6
for sure	0	0.4	0.6	0.9	0	1.6
apparently	0	0	0	0	0	4.7
no doubt	0	0	0	0	0	0

Relative frequency per 100,000

Figure 3.1 shows the mean frequency of epistemic adverbs per speaker. It illustrates a sharp increase, nearly doubling in frequency, from Level 4 to Level 6. It peaks at Level 8 and drops at Level 9. The data shows the decrease of the frequency of *actually* in Level 9 group causes this pattern, but no reason is discernible. This is discussed in detail in Section 3.2.4.

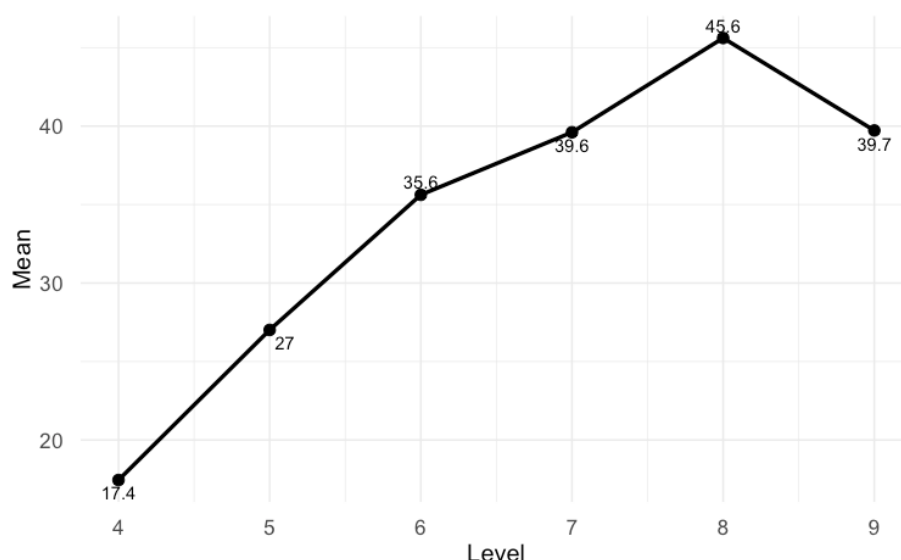


Figure 3.1 Mean frequency of epistemic adverbs in the NICT JLE corpus across the levels 4 to 9

Figure 3.2 demonstrates the distribution of each value. It illustrates that median value accounts for 59.9% of total use of epistemic adverbs, low value consists of 38%, and high value only accounts for 2.1%. It can be said that JLE use median and low value items more frequently than high value items which emphasise their propositions. This result is unsurprising as the median value group includes *maybe*, and *probably*, and the low value category contains *actually*, and *kind of*. The results presented here are in line with the findings of Gablasova et al. (2017) that L2 learners use more epistemic adverbs which shows uncertainty, such as *maybe*, or neutrality, such as *kind of*, than certainty, such as *obviously*. In the following section, each marker in each group will be analysed in detail, starting with the high value group, followed by median value, and finally low value.

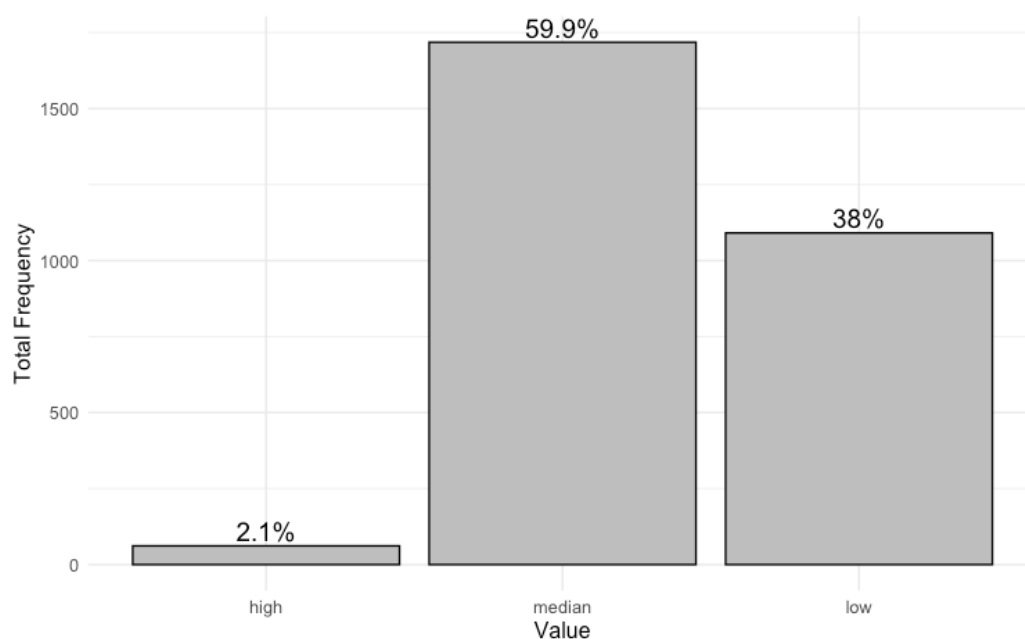


Figure 3.2 Distribution of epistemic adverbs in high, median, low values in the NICT JLE corpus

3.2.2 High value in spoken data

Figure 3.3 shows the relative frequency of the three adverbs which show the highest mean frequency across the JLE groups. However, all of them are rather limited in frequency compared to lower value adverbs.

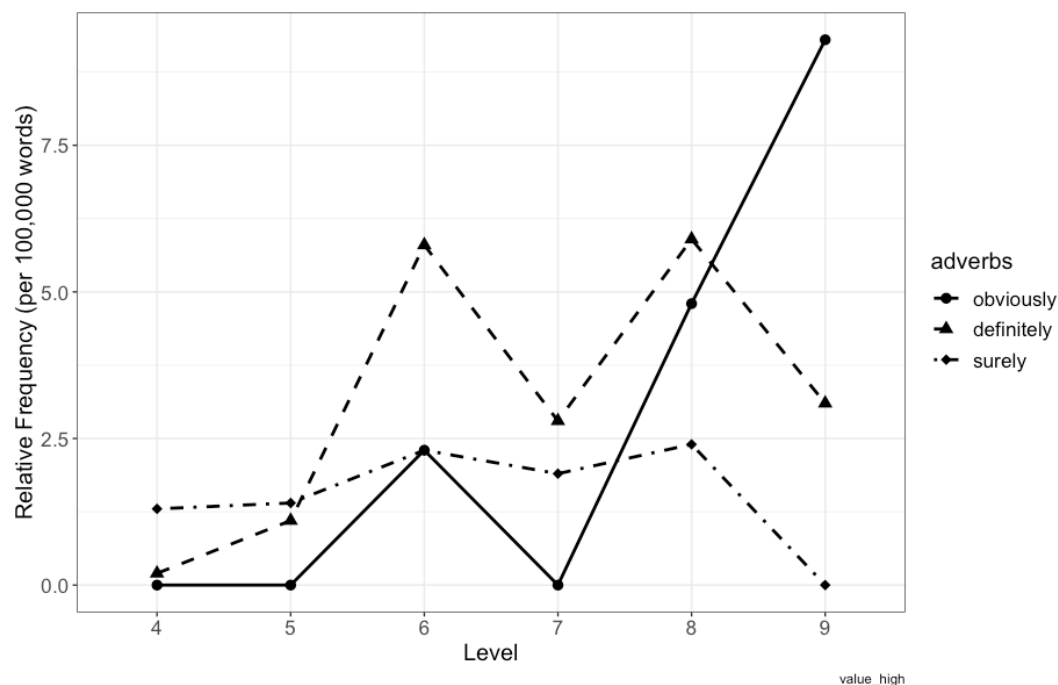


Figure 3.3 Distribution of high value in SFL

There is no occurrence of *obviously* in the low and intermediate groups except Level 6. In Level 6, it reaches 2.3 in relative frequency. This rises to nearly 5 in Level 8 and in Level 9, and it reaches 9.3.

Figure 3.4 illustrates the distribution of frequency per level. The use of the jitter function from ggplot2 is illustrated here, which introduces a degree of randomness into the position of the data points to aid visibility in the graph. Therefore, even if data points appear slightly above or under the zero line, they represent a zero frequency. Jittering the points can avoid overlap and make it easier to distinguish individual data points that would otherwise be plotted directly on top of each other.

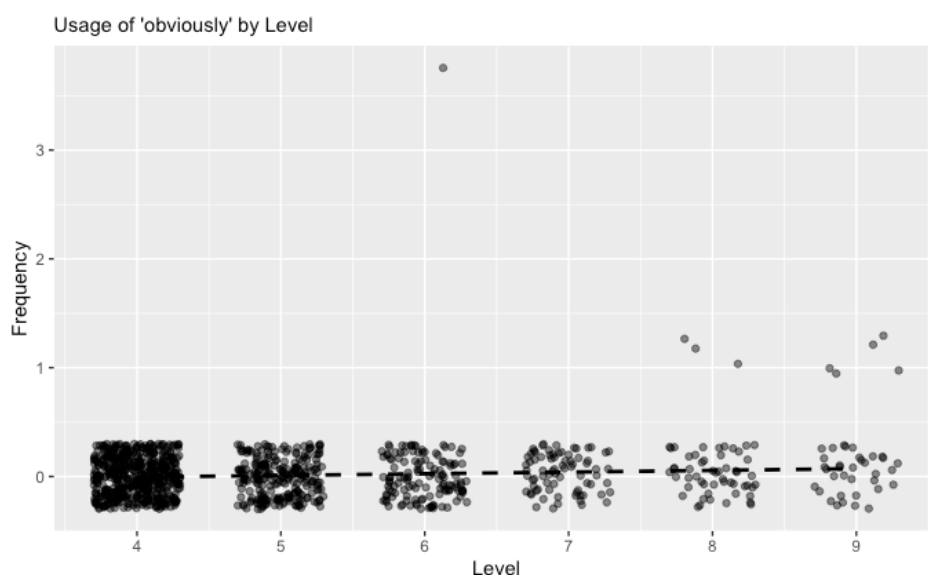


Figure 3.4 Distribution of raw frequency of *obviously* across JLE groups

OED defines *obviously* as ‘in a clearly perceptible manner, evidently, plainly, manifestly; naturally, as might be expected from the circumstances.’ Additionally, Pérez-Paredes and Bueno-Alastuey (2019) describe four usages of *obviously* as below:

1. Evidential meaning: Strong evidentiality. Evidence is presented in discourse.
2. Weak perceptual evidence: *Obviously* comes close to *apparently* in meaning. The function of *obviously* is distancing.
3. Authority: No evidential meaning is provided. The speakers try to give some authority to their statement.
4. Solidarity within a closely-knit group: *Obviously* is associated with positive rather than negative politeness and with solidarity rather than power or imposition.

(Pérez-Paredes & Bueno-Alastuey, 2019, p. 26)

Evidential meaning is an assertion with evidence, which is provided in the discourse. Weak perceptual evidence is similar but *obviously* is used with less objective evidence. In this data set, all examples but one express evidential meaning, as shown in (4) to (8).

- (4) *Obviously* I don't have to ur to pay for rent. That's a good advantage.
(file01279_9_1)
- (5) Um well first of all, well there are no boys, *obviously* in our school.
(file01225_9_6)
- (6) And um o *obviously* there's like a winter sale or summer sale in Japan as well.
(file01277_9_7)
- (7) So I guess this is somewhere, a skiing resort. And, ur well *obviously*, under left hand side, there are kids having fun. (file00287_9_2)
- (8) [...] *probably* ur urm get another ur take another exam for his license because *obviously* he did he wasn't urm worthy of having that license. (file01248_9_4)

In (4) to (6), the topic the interviewee is talking about has been shared with the interviewer in the previous discourse. In (4), the interviewee is talking about the advantage of having his own house; in (5), the interviewee is talking about the school she used to go to, which was a girls' school; in (6), presumably the speaker expects the interviewer who has the same

nationality as the speaker, has shared knowledge about culture, and specifically that sales happen twice annually.

In contrast, the use of weak inference is rare. For example in (9), the speaker relates that he went to a high school in the United States and was selected to advanced math class himself.

- (9) I was put into this really good math class because I was Japanese and
obviously all Japanese are good at math when they go to the States.(file01271_9_6)

Although he mentions *obviously all Japanese are good at math*, later in the conversation he says he is not totally sure about the reason why he thinks so in responding to the question from the interviewer.

The predominant of evidential meaning in the data lends support to the previous research regarding L2 learners. For example, the findings of Pérez-Paredes and Bueno-Alastuey (2019) demonstrate that 100% of use by Chinese and Spanish learners is evidential meaning whereas for German learners of English 86% is evidential meaning and 14% is weak inference. By comparison, for L1, 96% of examples are evidential meaning and 4% is weak inference (p. 27).

The adverb *obviously* is used only by advanced JLE in the spoken context and the purpose is to convey evidential meaning. It is used when the speaker and listener share common ground such as cultural knowledge about an event or have a shared experience, such as having watched the same picture. The clear distribution to the advanced level could be used to judge learners proficiency level when focusing on the use of *obviously*.

For *definitely*, a total of 24 cases are found in the spoken data. Although overall frequency is low, it is the only form among those of high value which is used by all the proficiency groups. Figure 3.5 shows the distribution of frequency across the proficiency groups.

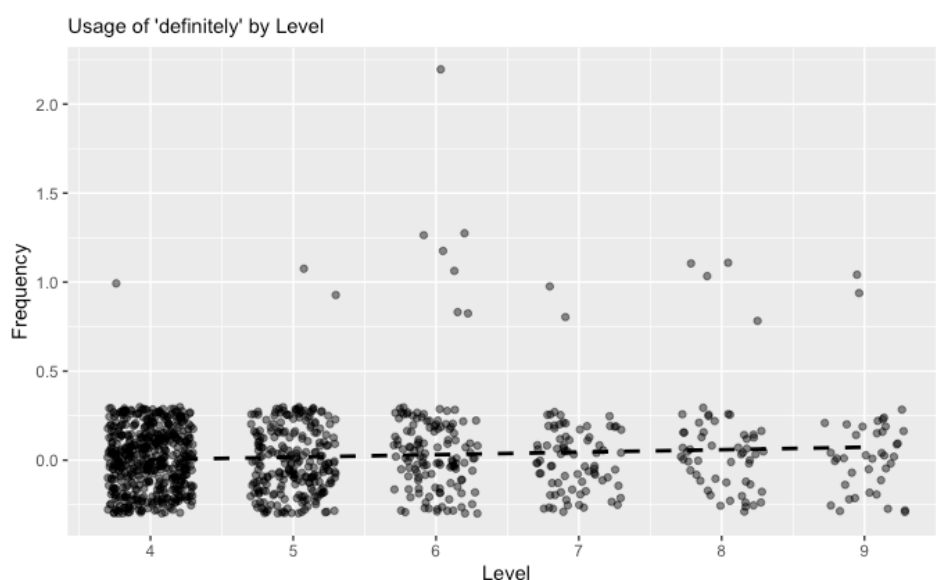


Figure 3.5 Distribution of raw frequency of *definitely* across JLE groups

In Level 4, for example, one JLE makes a self-correction in their response to a question from the examiner, shown in (10). This demonstrates that the speaker understands the semantic

difference between *maybe* and *definitely* and therefore, the choice of *definitely* helps the speaker convey his certainty about the proposition.

- (10) <A>Are you going to be busy today?
Today? Urr. Very very busy *maybe*, *may*, *not maybe*, *definitely*.

In (11), the examiner, acting as a store employee, asserts that the product is usually non-refundable. In response, the JLE responses along with the term *not definitely* to challenge the assertion of *usually* non-refundable, attempting to negotiate the possibility of a return. It is evident that the person understands the gradation of the possibility of *usually* and *definitely* and uses it for his counterargument.

- (11) usually, not *definitely*. (file01187_6_3)

In addition to the definition given in the introduction, *definitely* is used as an ‘emphatic affirmative: certainly; yes’ (*OED*). In the following example (12), A is an examiner and B is a JLE participant. They are doing role-play, which requires B to tell A that B cannot go to his birthday party because of a high fever. B feels sorry and suggests inviting participants including A to the lunch next Sunday. B answers *yeah* with *definitely* responding to A’s confirmation. Similarly, emphatic negation is used in Level 7, though only in one case found in (13). In these examples, *definitely*, can be interpreted as a device to indicate stance, showing strongly positive or negative feelings.

- (12) Oh yeah. Next Sunday.
<A>Sunday?
Yeah. *Definitely*. Yeah.
<A>O K. Well then, in that case.
Oh I'm sorry. Yeah. (file01021_5_3)

- (13) By car? *Definitely* not. (file00658_7_8)

As for *surely*, a total of 18 examples used by 11 JLE are found in the data and the distribution is sparse, as illustrated in Figure 3.6. In Level 4, repetition e.g., *I surely, I surely* (ile00549_4_4), seems to be due to an inability to produce the subsequent utterances in English promptly rather than emphasis, and self-correction, e.g., *I surely eat, I surely ate too much food* (file00549_4_4) should be noted in the analysis. *Surely* is used almost evenly across the group except at Level 9, in which no examples are found. Although the effect of task is discussed in Chapter 6, these examples are primarily used in stages 3 and 4 in the roleplaying task and narrative task, respectively. It can again be said that *surely* is used to enhance opinion in these tasks exemplified in (14) or (15) rather than used in the conversations such as the interview or follow-up interview.

- (14) So, next time, *surely* I will go. (file00342_7_3)
(15) [...], so *maybe* erm if there is another party you have, erm I'll *surely* like you invite me again. (file00760_8_3)

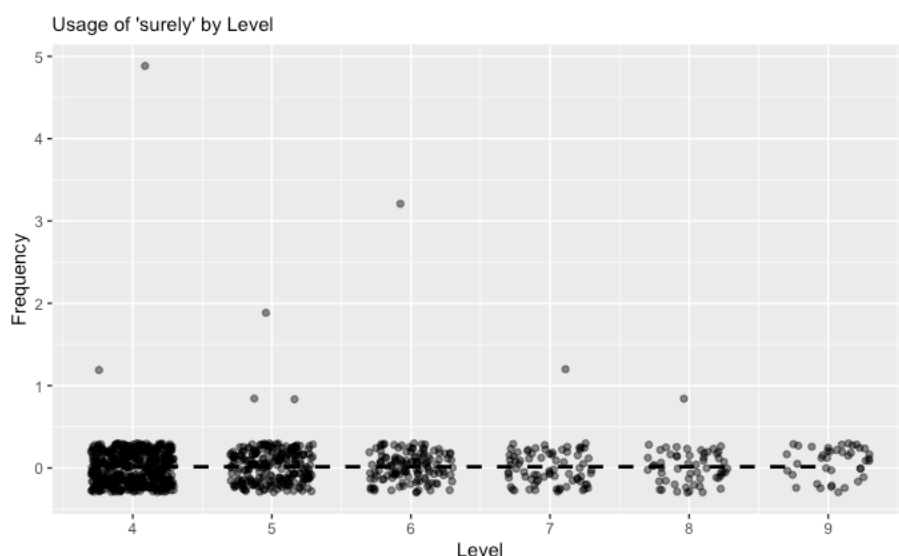


Figure 3.6 Distribution of raw frequency of *surely* across JLE groups

According to *OED*, *surely* is used '[s]o as to be certain to achieve a particular end or result; without risk of failure; reliably, infallibly. Now chiefly in *slowly but surely* at phrases, and similar phrases alluding to this.' However, usage within phrases of this kind is not found in the data. As for the syntactic aspect, Quirk et al. (1985) mention some syntactic restriction on the use of *surely*, stating that it is not used in the interrogative form (p. 587). This is significant information in the EFL context (Rozumko, 2015). However, the usage in the interrogative form is not found in this data set.

In contrast, *for sure* is defined 'as a certainty, for certain; without doubt; undoubtedly. Frequently in *that's for sure*. In later, colloquial use often used emphatically at the end of a sentence' (*OED*). Four cases are identified as shown in (16) to (19), and all are in line with this definition.

- (16) I just I want to go there in the next time *for sure*. (file01097_5_3)
- (17) [...] then I will I will go go to your party *for sure*. (file00782_6_3)
- (18) I may not like how I look in the dress. So I try *for sure*. (file00902_7_7)
- (19) When you trust somebody, you need to know the person *for sure*.
(file01258_9_7)

Certainly is used a total of 14 times by JLE in all the proficiency levels except Level 9. The adverb is defined as '[i]n a manner that is certain; in a way that may be surely depended on; with certainty' (*OED*). This is the most usual usage is primary and accounts for 71.4% or 10 out of 14 uses. As the definition explains, *certainly* can be a synonym of *surely* as in (20). At higher levels such as Level 8, it is used with a modal verb *will*, which conveys their volition, as in (21) or (22). This pattern is not found in lower proficiency groups. In (23), the speaker explains the reason they bring their children to their grandparents' home. The utterance is incomplete, but judging from the context, if *miss* were to be added, using *certainly* emphasises that the speaker is certain that the grandparents miss their grandchildren because they live away from each other.

- (20) Fast food shop provide *certainly* delicious foods for cheap price. (file00725_4_6)
- (21) I will call you, and if your party is still on, I will *certainly* come. (file01202_8_3)
- (22) But *certainly*, if I passed the exam of I don't know in English first grade of Eiken, I will. (file00323_8_5)

- (23) Er we are live away from each other er and then my parents-in-law *certainly* (miss) their grandchildren. (file00057_7_6)

Another use of *certainly* is as a reply. In (24), at the beginning of the conversation, when they exchange names, the examiner A asks if they should use B's name and in response, B replies with *certainly*. This kind of usage occurs four times. Although the number of samples is limited, only students at the lower intermediate levels, specifically Levels 5 and 6, demonstrate this usage.

- (24) <A>Er can I call you "B's name"?
 Yes, *certainly*.
 <A>Nice to meet you. (file00336_5_1)

Apparently occurs a total of three times, and the same person in Level 9 repeatedly uses it in the task of role-playing. It shows this epistemic adverb is not a frequent choice for advanced JLE, as CEFR B2 to C1. The definition by *OED* is '[e]vidently or manifestly to the understanding; clearly, plainly... So far as it appears from the evidence; so far as one can judge; seemingly.' In all three examples *apparently* is used as a synonym of *clearly* or *evidently*, shown in (25) to (27). In the role-playing task, the JLE has asked to return a puppy he bought a while ago and he is explaining that the dog looks unhappy staying at his house thus far. He has ten-years of experience taking care of other pets and he uses this knowledge as a reason to return the dog to the shop. It is not evident that this person has a strong preference for using epistemic stance adverbs as file01279 contains *obviously* once as the only high-value epistemic stance adverb in the whole speaking exam.

- (25) And uh a *apparently*, he is not very happy staying in my house. I can tell. (file01279_9_3)
 (26) And *apparently* this dog doesn't belong to my house. (file01279_9_3)
 (27) But *apparently* he doesn't look very happy. (file01279_9_3)

In summary, high-value epistemic stance markers are used less frequently than other value items, yet they play a crucial role in emphasising speakers' opinions, confidence, beliefs, and sense of evidentiality. The lack of significant differences in usage frequency across proficiency groups may suggest a deficiency in pragmalinguistic or sociopragmatic knowledge, namely, knowing when and how to use these markers, and this issue will be further explored with reference to NS data in Section 3.4. Furthermore, these high-value items are predominantly identified during roleplaying tasks that require JLE to engage in negotiations typically not permitted, such as returning an item, potentially leading to more frequent use of these types of epistemic devices than during conversational interviews.

3.2.3 Median value in spoken data

In this section, the median value items, *maybe*, *probably*, and *perhaps* are examined. As the Figure 3.7 demonstrates, the relative frequency of *maybe* among JLE begins at 190.1 in Level 4 and reaches its peak at 275.4 in Level 6, indicating that its usage does not necessarily increase with a rise in proficiency level. In contrast, the frequency of *probably* exhibits a clear pattern, with increasing frequency as the proficiency level advances. The usage of *perhaps* is limited across all proficiency levels, with no discernible increase or decrease identified.

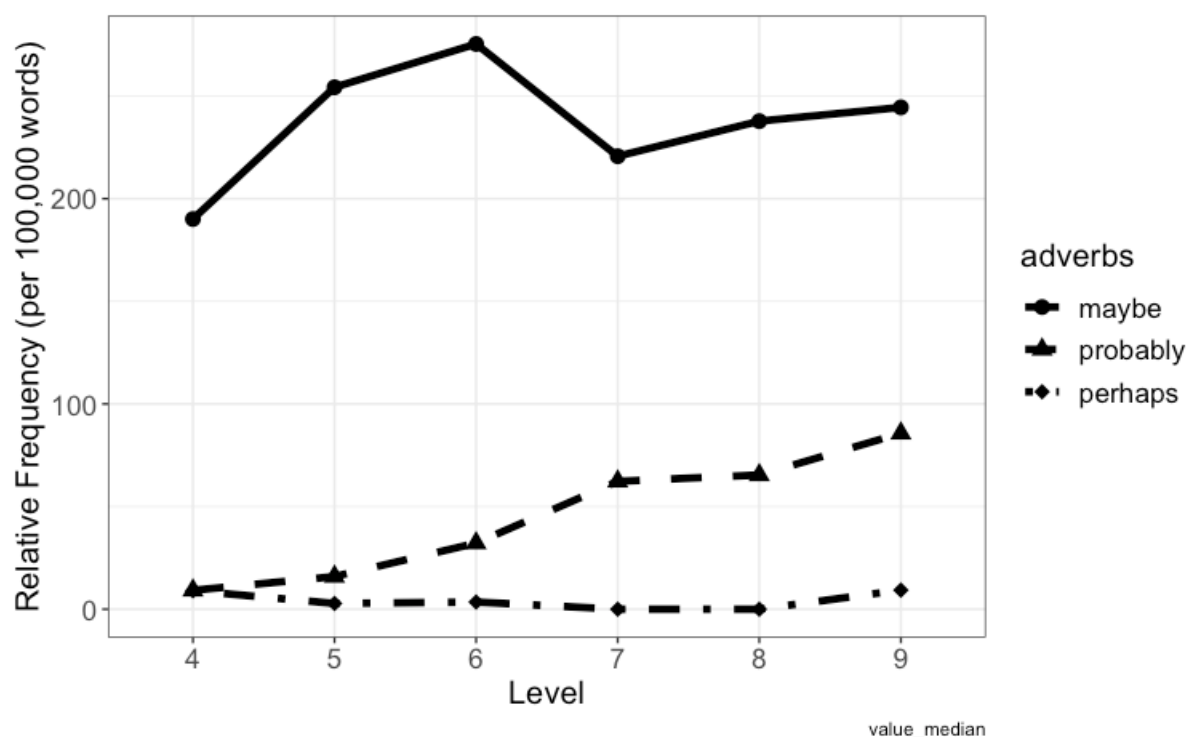


Figure 3.7 Distribution of median value in the SFL

Maybe is one of the most frequently used epistemic adverbs regardless of L1 and L2 background, especially in a spoken context. Figure 3.8 below illustrates the raw frequency of occurrence of *maybe* per speaker and the distribution across all the proficiency groups. As the scatter plot indicates, there is a weak correlation between the rise of the proficiency level and frequency of *maybe*. The highest frequency is over 30 by one speaker through the tasks and it partly causes the number of Level 6 to outweigh upper-level groups.

The total raw frequency of *maybe* across the groups is 2,668 instances. This includes 62 cases of one-word replies, as illustrated in example (28), and 44 cases where *maybe* is repeated, as in examples (29) and (30). Each instance where *maybe* is repeated multiple times is counted individually. For example, in (29) the occurrence of *maybe* is counted as three times, not once. In terms of accurately counting epistemic stance markers, it can be argued that they are appropriately represented in the data, as these examples demonstrate a characteristic feature of language use among learners. Even when one-word replies and multiple repetitions are counted in this manner, their impact on an individual's total frequency is minimal, constituting approximately 0.03% of the 2,668 cases.

- (28) <A>Oh really?
 Yes.
 <A>laughter
 Maybe.
 <A>O K. I see.

(29) Er so *maybe maybe maybe* the restaurant er has not wine (file00531_4_6).

(30) [...] *maybe* this restaurant is very expensive, and *maybe* very quiet, and *maybe maybe* she plays good music. But *maybe* I go to this ra restaurant with my son [...] (file00162_5_6)

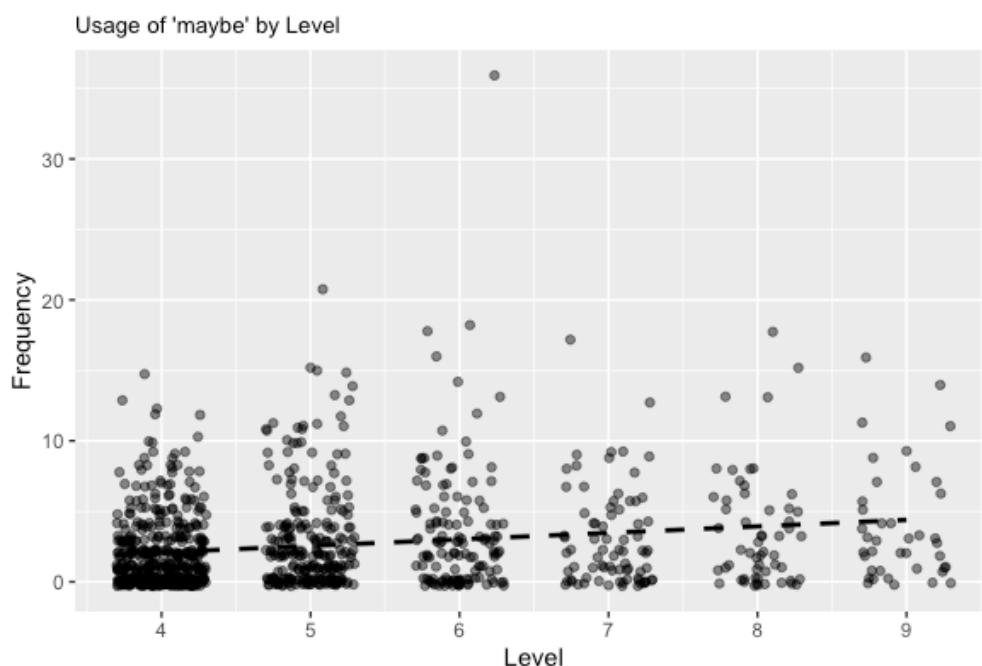


Figure 3.8 Distribution of raw frequency of *maybe* across JLE groups

The primary usage of *maybe* is to convey uncertainty about the things that will happen or that are true (*Oxford Advanced Learner's Dictionary*, *OALD* 10th edition). Dictionaries such as *OALD* and *OED* define *maybe* as one of the synonyms of *perhaps*.

Another frequent usage of *maybe* is in making suggestions. Suggestions or requests often incorporate downtoning devices, such as the modal verb *could*, to soften a statement. In observing these patterns, therefore, it is more useful to focus on which word collocates with *maybe* rather than focusing the epistemic adverb in isolation. Stubbs (2001) defines collocation as “a lexical relation between two or more words which have a tendency to co-occur within a few words of each other in running text” (p. 24). The most frequent collocation in this case is *maybe you can*⁷. Depending on the requestive force, distinctive patterns are employed. For example, *maybe you should* is used for giving more imposing suggestions exemplified in (31) to (33).

- (31) [...] *maybe, you should* uhh refund su ah *you should* refund my money.
(file01114_5_3)
- (32) [...] so *maybe you should*, you should ask mm the local uhm your friends [...]
(file00077_5_7)
- (33) [...] so *maybe you should* depend on and rely and then it'll go well, I think.
(file00777_7_8)

In contrast, *maybe you could* is used to alleviate potentially face-threatening tone as exemplified in (34) to (37). In preliminary research examining this expression, the data are extracted from the advanced level of NICT JLE, Levels 7 to 9, suggests that this type of use for hedging to make a polite request is quite rare in the JLE data (Suzuki, 2022).

⁷ The collocation has been searched for the data using the *quanteda* package with R command: `kwic_results <- kwic(nict_jle_tok, pattern = phrase("maybe .* should"), valuetype = "regex")`. To change search pattern, the phrase in the bracket is changed.

- (34) [...] *maybe you could* call me er some oth other time. (file00087_6_4)
 (35) [...] ahm ah *maybe you could* also offer us some ahm coupon for the next trip.
 (file01078_7_3)
 (36) Do you think, ah *maybe, you could* ah bring the plastic bag over here?
 (file00341_8_3)
 (37) Um ma *maybe* if *you could* stretch your policy a little bit? (file01271_9_3)

Similarly, use of *maybe* along with the interrogative form *could you* in (38) or *would you* in (39) occurs only once each in the data set.

- (38) Could you *maybe* talk to the manager? (file01271_9_3)
 (39) *Maybe* would you check about the accident and then if it's yeah, if you don't mind, would you change my seat? (file01270_7_3)

Table 3.4 Frequency of maybe in requests and suggestions across different levels of proficiency

Expression	Lv4	Lv5	Lv6	Lv7	Lv8	Lv9	Total
maybe you can	0	2	4	5	0	2	13
maybe you could	0	0	1	1	1	1	4
maybe you should	0	2	0	1	0	0	3
could you maybe	0	0	0	0	0	1	1
would you maybe	0	0	0	1	0	0	1
Total	0	4	5	8	1	4	22

These results are put together in Table 3.4, which demonstrates that the Level 4 group do not use this type of suggestions at all. Even though their raw frequency of *maybe* is highest, making suggestions with modal verbs seems not to be an option for this group. Use of *maybe* as a downtoner with modal verbs in Table 3.4 rises from Level 5 up, which is almost equivalent to CEFR A2, and this is evidence of increasing pragmalinguistic knowledge.

Probably is another synonym of *maybe* which conveys weak possibility. The degree of uncertainty overlaps with *maybe*, which is evidenced in as they are used interchangeably for some speaker or in some contexts. However, some literature argues that *probably* is used to express stronger possibility than *maybe* (e.g., Ozaki, 2012).

In some examples, speakers use both expressions together. In (40), the speaker adds an epistemic verb phrase *I think*, indicating the speaker expresses further uncertainty.

- (40) *Probably maybe I think* this room is hers. (file01201_4_2)

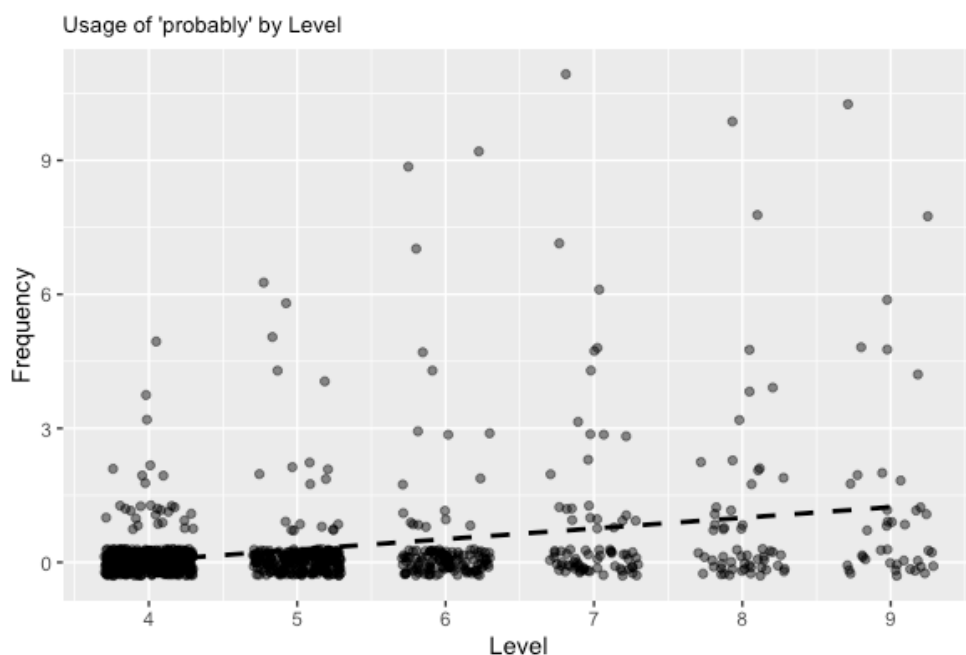


Figure 3.9 Distribution of raw frequency of *probably* across JLE groups

The scatter plot in Figure 3.9 shows an increase in frequency of *probably* as the proficiency level rises. Both the use of *maybe* and *probably* show the correlation between the proficiency level and frequency.

Another epistemic adverb, *perhaps*, conveys weak possibility. As described earlier, *perhaps* is a synonym of *maybe*. It is evidenced in example in (41).

- (41) [...] on the second floor, err *maybe*, *perhaps* err there are one rooms or one room or two rooms. (file00223_5_2)

Suzuki (2018b)⁸ points out that *perhaps* conveys a weaker degree of probability than *maybe* as *maybe* has a tendency to be more strongly collocated with a modal verb *will* than *perhaps* (p. 401). In the current data set, only the following four instances in (42) to (45) are found and the low frequency of occurrence may lend support to this viewpoint.

- (42) Uum I present um *perhaps*, I'll present uum ticket for books. (file01182_4_8)
 (43) But er *perhaps* I'll eat a dinner, er I'll sleep with my kids, and so on. (file00412_4_5)
 (44) Mm as a matter of fact, mm I per I *perhaps* will not be able to attend the mm eight PM mm meeting. (file00416_4_5)
 (45) Well then *perhaps* then I'll call a taxi or something or *perhaps* the gas station will call taxi for me and I can catch that. (file01218_9_3)

The median value forms discussed in this section, *maybe*, *probably* and *perhaps*, indicate the uncertainty of the proposition by speakers. *Maybe* accounts for the large share of the group, and the distribution across the level is rather stable. In contrast, *probably* demonstrates a steady increase with the rise of proficiency level. It could be said that the use of this epistemic adverb reflects the development of language acquisition levels. The occurrence of *perhaps* is rather sparse. In this context, these adverbs *maybe*, *probably*,

⁸ The scholar shares an identical full name with the author of this thesis; however, they are not the same individual.

perhaps collocate frequently with modal verbs *will*. In addition, these adverbs are used to express politeness. For example, findings show that JLE use *maybe* along with modal verbs in phrases such as *maybe you can*. However, this only happens after Level 5, approximately CEFR A2. Mitigation using epistemic adverbs is vital to build interpersonal relationships as it softens the requestive force relatively readily for learners of English. The hypothesis is that there will be some distinction of use or frequency between native speakers of English and JLE, which is addressed in section 3.4.

3.2.4 Low value in spoken data

This section explores the group classified as low value, encompassing the words *actually*, *kind of*, *sort of*, and *possibly*. From a frequency viewpoint, *actually* exhibits the highest usage. Indeed, within this data set, *actually* emerges as the second most common epistemic stance adverb, second only to *maybe*. Figure 3.10 illustrates that *actually* is utilised even by the group with the lowest proficiency and its usage increases sharply in correlation with rising proficiency levels up to Level 8. However, a decline is unexpectedly observed at Level 9. The hedging devices, *kind of* and *sort of*, are employed almost interchangeably but both are rarely used by lower proficiency JLE such as Levels 4 and 5. For *kind of*, usage frequency rises at Level 6 and, after reaching a peak at Level 7, which aligns with CEFR B1 and above, maintains a relatively steady range. On the other hand, *sort of* is primarily used by advanced level JLE. *Possibly*, being the least frequent adverb in this group, shows no significant fluctuation in usage frequency across all proficiency levels. The following section will provide a more detailed analysis for each individual item.

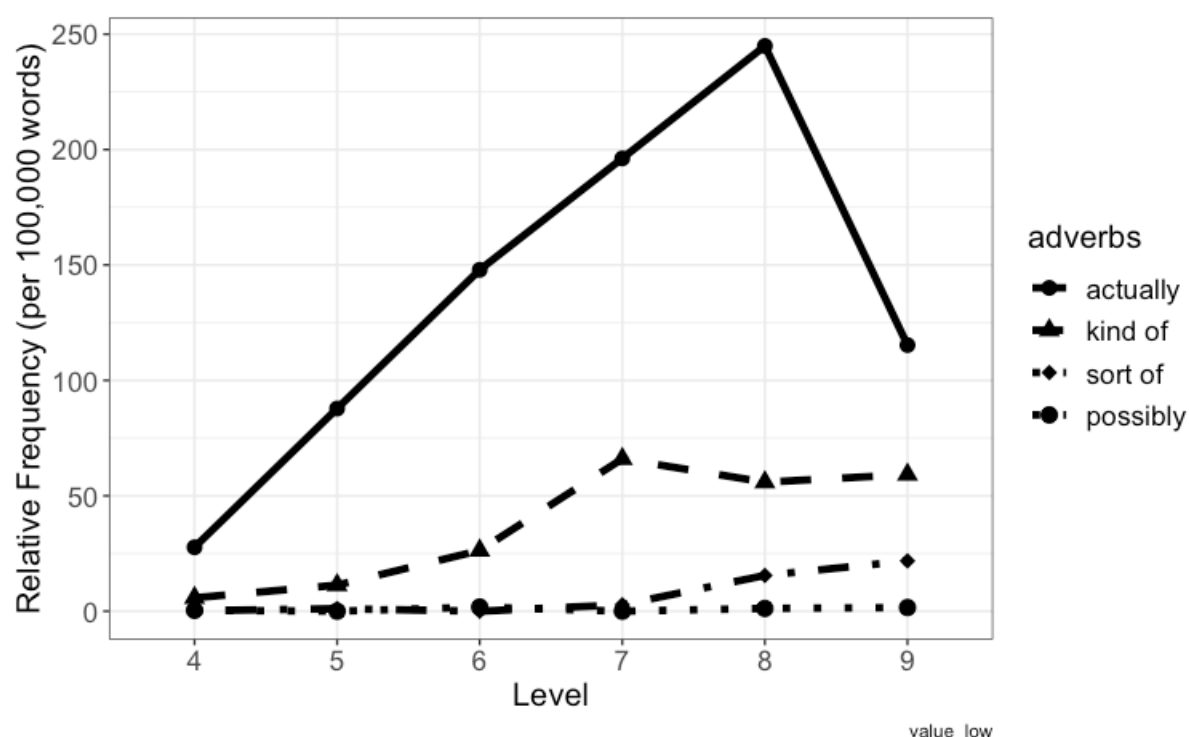


Figure 3.10 Distribution of low value group

As noted, *actually* is the second most frequently used, trailing only behind *maybe*. Moreover, it is notable for displaying the most pronounced gap in usage frequency between elementary and advanced groups. For example, its use is limited to 27.7 instances in the Level 4 group, while nearly nine times as many instances, or 244.9 to be precise, are recorded in the Level 8 group.

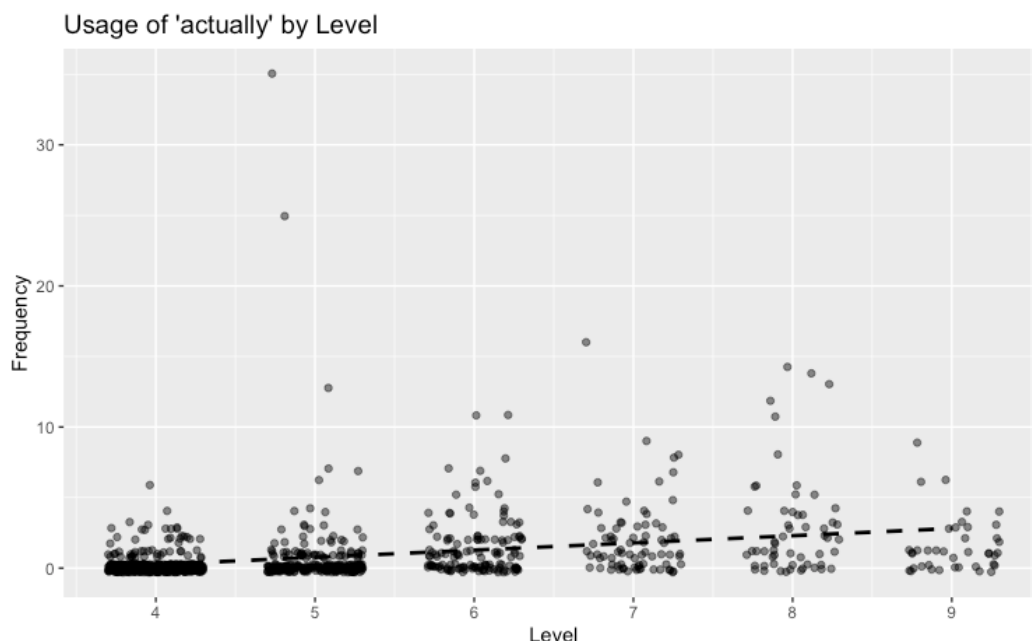


Figure 3.11 Distribution of raw frequency of *actually* across all proficiency levels

Figure 3.11 illustrates the relationship between the increase in proficiency level and the frequency in the use of *actually*. A positive correlation is observed between proficiency level and frequency, indicating that as proficiency level increases, the usage of *actually* also increases. However, it is worth noting that the standard deviation is relatively high for Levels 5, 7, and 8, suggesting some variability in the data. Reasons for the decline in the frequency of *actually* at Level 9 are not immediately clear, but it could be influenced by individual speaking tendencies or preferences for using *actually* as an epistemic stance marker. It is worth noting that the group at Level 9 consists of only 40 JLE, which is the smallest sample size among all levels. This smaller sample size could contribute to the observed decline in frequency. Further investigation may be needed to better understand this pattern and account for potential differences in individual speaker preferences.

In terms of function, *actually* is used in multiple ways depending on the contexts. First, *actually* is an adversative marker (Aijmer, 2013). Therefore, it collocates with *but* frequently such as in (46).

(46) I like my neighbors. *But actually* I don't know my neighbors exactly.
(file00598_4_1)

In (46), at the beginning of the conversation, the examiner asks if the speaker likes her neighbours as an ice-breaker and she responds. The collocation *but actually* accounts for 10% of instances, 112 out of 1119. Further, *but actually* collocates with negative sentences in 28 cases, especially *I don't know* and *I don't like* in lower proficiency groups.

Emphasising reality is another usage of *actually*. This usage is synonym of *really*, as defined in *OED*, '[i]n action; in fact, in reality, really.' In (47), the speaker emphasises that the shop staff told her to return to the shop as the bag she expected would have arrived by then. However, the speaker complains that the bag has not been arrived. *Actually* is used for emphasis, to deny that this is the speaker's fault. It is used similarly in (48).

(47) I *actually* heard they said at noon. (file00353_5_7)

(48) I *actually*, I used to go to restaurants before. Now, the baby is small, so we can't go restaurant so often. (file01063_5_6)

Another important function of *actually* is that it can reduce the impact of an opposing statement. Aijmer (2013) points out that this usage occurs with *kind of* and *sort of*. In (49), in this role-play, the speaker complains about his train ticket not being refunded due to the company's regulations even though the train was delayed and therefore he missed another train he had reserved. The speaker uses *actually* four times. First, in line 2, he starts the conversation by *actually* after *yes*, which implies that something unexpected will be follow. Similarly, the remaining three instances in line 6, 9 and 14 serve as an adversative marker in the phrase *but actually*, but at the same time the second in line 6 and fourth in the line 14 function to soften the negative tone along with *kind of*.

(49)

1 <A>O K. Can I</SC> how can I help you?
2 Er Yes. *Actually*, I had a reserved seat of the train which just just left,
3 <A>Mh-hmm.
4 from this station. And er I was supposed to get on the train.
5 <A>Uh-huh.
6 *But* I was ki, *actually*, I'm I'm *kind of* late to get there. So I couldn't get on the
7 train. So. But I still have this ticket. So could you please get me back for this?
8 <A>Oh. I'm sorry. But it's against regulation. I cannot do that.
9 Ah. *But actually*, I had a. Yeah. I was pretty busy. *I mean* I took train to come
10 here. I took another train to come here.
11 <A>Mh-hmm.
12 And er this was supposed to be on time to arrive here.
13 <A>Mh-hmm.
14 *But* it was *actually kind of* late.
15 <A>Mh-hmm.
16 Five minutes late. (file00640_7_3)

Kind of and *sort of* are commonly used as hedges, often conveying uncertainty. For example, when tasked with describing a picture, JLE frequently hedge their responses. One possible reason for this preference among learners is their lack of confidence in their choice of words. In example (50), the speaker appears unable to recall the word *sommelier* and seems to think that merely *recommending wine* does not adequately describe the profession. In (51), the speaker initially uses *kind of* but then corrects themselves to *looks like*, probably believing this expression better suits the picture description. Such uses are also found among early-level learners; however, gaining better knowledge of this type of hedge could help ameliorate the reticence or anxiety experienced by lower-level EFL learners in speaking.

(50) I don't know someone who I forgot the word but someone who *actually kind of* recommend really good wine to the guest [...] (file01207_8_2)

(51) And she is *kind of*, she looks like explaining about computer to her pets.
(file00320_8_2)

Another important function of hedging is to mitigate face-threatening remarks. This role is tied to the “processes of politeness and saving one's own or somebody else's face in discourse” (Reichelt, 2021, p. 566). However, this usage appears sparsely in the current data set. For example, in (52), where the speaker answers a question in an interview, the use of

hedging can be seen as a politeness strategy. If the interviewer is from the location mentioned, employing these phrases helps to save the interviewer's face. Similarly, in (53), the speaker is responding to a question about the most significant difference noticed upon returning to Japan after living abroad for thirty years. This response can also be viewed as a way to avoid being too direct about a potentially critical remark.

- (52) Mhm it's a nice place. Lots of green nature. But it's *kind of* boring for me.
Because Urm since the each house is big we have to move (file01240_7_1)
(53) [...] the most ur the biggest different I would say is like er the younger people
who wouldn't um er who can be very mm creative, not all of them, some of them
are still *sort of* uniformed way of thinking and, well, appearances.(file01203_9_1)

In addition, similar usage can be seen in negotiations. In an imaginary situation in a role-play task, the scenario is that the train was delayed and therefore the speaker was late to arrive at the destination. Nevertheless, the speaker avoids mentioning this in a direct manner by using *kind of late* as in (54) and (55). This appears to be an attempt to save the interlocuter's face primarily and possibly to save the speaker's own positive face. These usages are slightly different from the hedging in (52) or (53) in that even though the speaker wants the interlocuter to take their proposition seriously, still the speaker uses *kind of* to minimise their proposition. The same strategy can be seen in the same task, which asks for a refund for a train ticket. This kind of use can be identified only in Levels 7, 8 and 9 as in (56) and (58) and therefore it is evidence of the development of pragmalinguistic knowledge of JLE.

- (54) I was ki, *actually*, I'm I'm *kind of* late to get there. (file00640_7_3)
(55) But it was *actually kind of* late. (file00640_7_3)
(56) The train has just gone. I um *kind of* missed the train because I um had a
stomachache and I was in the toilet (file01226_8_3)
(57) And the train was fast the train came fast. Really, *kind of*. Didn't it? Didn't, didn't
the train come earlier than it was supposed to? (file01230_9_3)
(58) *I think* I ordered the suit room But it was *kind of* similar bi ur it's *kind of* just a
double room (file00658_7_3)

In the English language, *kind of* and *sort of* are hedging terms that can be replaced by *a little*, similar to the Japanese particle *tyotto*. This word also means 'a little' and functions to "minimize the force of the statements made by the speaker", thereby making the statement appear lighter (Matsumoto, 2001, p. 5). For instance, in (59), the speaker describes an individual as a workaholic. In this context, the speaker's intent is not to accuse the man of being a workaholic, but rather to describe him in a humorous way. As a result, *kind of* serves to soften the adjective, which could otherwise be perceived as overly negative. Similarly, in (60), the speaker describes her spouse as a person who forgets things frequently. This *kind of* functions as mitigating negative connotation the adjective *forgetful* has and therefore saves her husband's face and her own positive face. In this case, hedging plays an important role not only in politeness but also to make a humour work as the speakers' intention in the context is not to criticise the person described but to convey a funny story.

- (59) And he is *kind of* workaholic. (file00644_4_6)
(60) [...] we both decided to set our anniversary for a special day since my husband is
kind of forgetful. (file01264_7_6)

Possibly can mean the opposite of *actually*. The use of *possibly* is rather limited, compared to other adverbs in the low value group *actually*, *kind of* and *sort of*, and there are only seven instances by five JLE. In (61), *possibly* is most likely used instead of *if possible*. Example (62) is also rather ambiguous in terms of the intention of utterance. Presumably, the speaker intends to say that *as much as possible, I eat healthy food*. This means that *possibly* is used only once in this data set in order to simply convey uncertainty in (63). A Level 8 learner conveys uncertainty about the speaker's choice of the word to describe a picture in the picture description task (63).

- (61) So er if *possibly*, erm she erm she point [sic] out computer for her cats [...]
(file00759_4_2)
(62) [...] I select Japanese restaurant. And as *possibly*, I eat erm healthy food.
(file01122_4_6)
(63) [...] there is a big I don't know, that's the *possibly* um big white house.
(file01235_8_2)

The individual who employs *possibly* three times appears in (64) to (66) in order to utilise it as a type of set expression for making requests in a more polite manner.

- (64) So err I wonder if you could *possibly* err replace this shirt (file01158_6_3)
(65) [...] could you *possibly* err excha [sic] err replace it with err with larger one?
(file01158_6_3)
(66) So please could you *possibly* exchange it? (file01158_6_3)

3.3 Results and analysis of the JLE written data

3.3.1 Overview of the results in written data

This section explores the written data. Table 3.5 provides the results extracted from EFCAMDAT.

Table 3.5 Overall frequency of the target epistemic markers across groups

adverbs	A1	A2	B1	B2	C1
maybe	13.5	51.4	10.3	3.9	7.1
actually	3.6	17.1	45.3	34.9	17.6
kind of	0	2.7	3	1.3	7.1
probably	2.7	1.1	6.6	11.6	14.1
sort of	0	0	0	0	0
perhaps	0	1.6	0.6	0	0
definitely	0.9	1.6	6	24.6	14.1
surely	1.8	1.1	4.2	2.6	14.1
certainly	0	2.1	1.8	10.3	0
obviously	0	0	0	1.3	0
possibly	0	0	3.6	0	14.1
for sure	0	0	0	10.3	0
apparently	0	0	0	1.3	0
no doubt	0	0	1.2	5.2	7.1

It should be noted that some tasks urge learners to use a specific word by showing the phrase or sentence in the task prompt; for example, a task in A2 level uses *maybe* in the prompt. Further details of this kind of prompt are discussed in the results section. However, it is still useful to see the tendency. The frequency of *maybe* decreases as the proficiency level rises whereas that of *probably* increases, and it is used most frequently by C1 level learners.

Figure 3.12 shows the mean frequency per writer of JLE across all the proficiency levels in the data set.

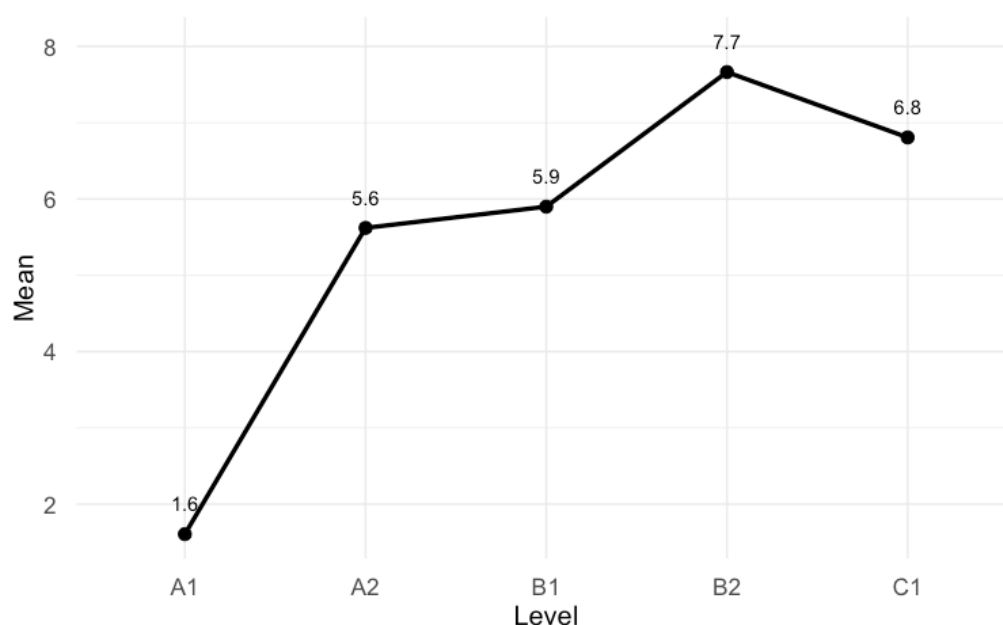


Figure 3.12 Mean frequency of epistemic adverbs by JLE in EFCAMDAT

It indicates the same pattern of development as in the spoken data in figure 3.1. In the lowest level, JLE use epistemic adverbs less than twice per person. This rises sharply in A2 by more than three times. After a relatively stable pattern is shown in B1, it peaks at nearly five times more than A1, the lowest proficiency group. It slightly drops at C1 level, which is 6.8 use per writer. This developmental pattern is identical to the spoken data, but the contents classified in SFL groups are totally different from the spoken ones, as shown in Figure 3.2.

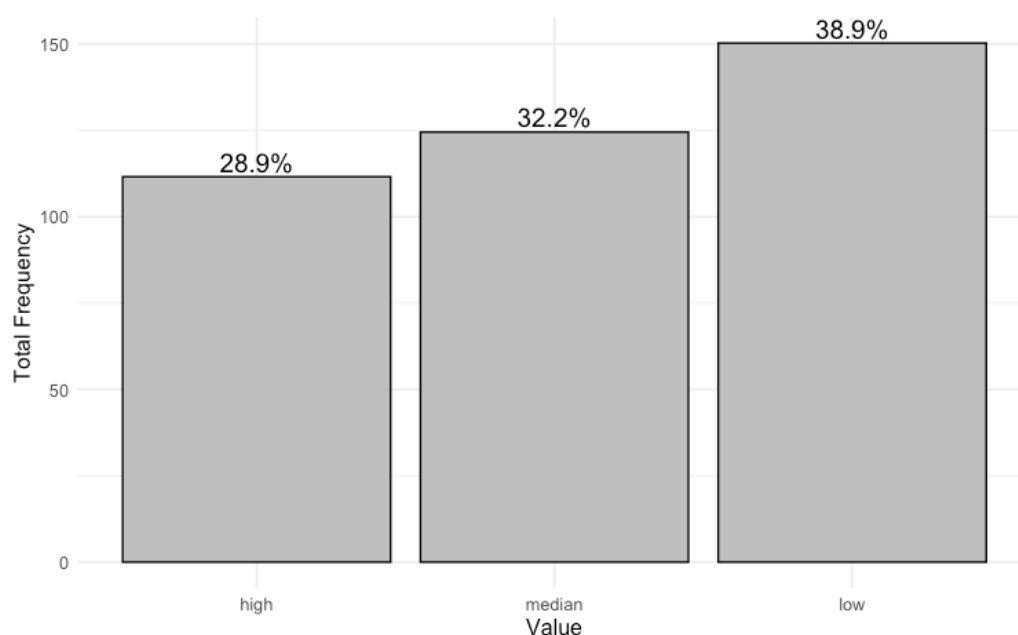


Figure 3.13 Distribution of epistemic adverbs in high, median, low values in EFCAMDAT

Figure 3.13 demonstrates that the order of low, median, and high is identical to that found in the spoken data. However, the percentages among each group are relatively closer, indicating a different distribution of the usage of epistemic adverbs. The low value group consisting of *possibly*, *actually* and *kind of*⁹ holds the highest percentage, 38.9% of total use of epistemic adverbs in the written data. It is close to the 38% share of low value in the spoken data. Therefore, the remaining two groups show a distinction. Notably, the high value group in the written data shows a higher percentage, 28.9% compared to 2.1% in the spoken data. Median group is also different, accounting for 32.2% in the written data but 59.9% in the spoken data. This suggests that epistemic adverbs expressing certainty such as *definitely* and *surely* are used more frequently in the written data than in the spoken data. Conversely, median value items such as *maybe*, and *probably* are less frequently used in the written data. In the following section, the analysis will proceed with these three groups, starting with the high value group.

3.3.2 High value in written data

⁹ An epistemic use of *sort of* is not identified and therefore it is not mentioned.

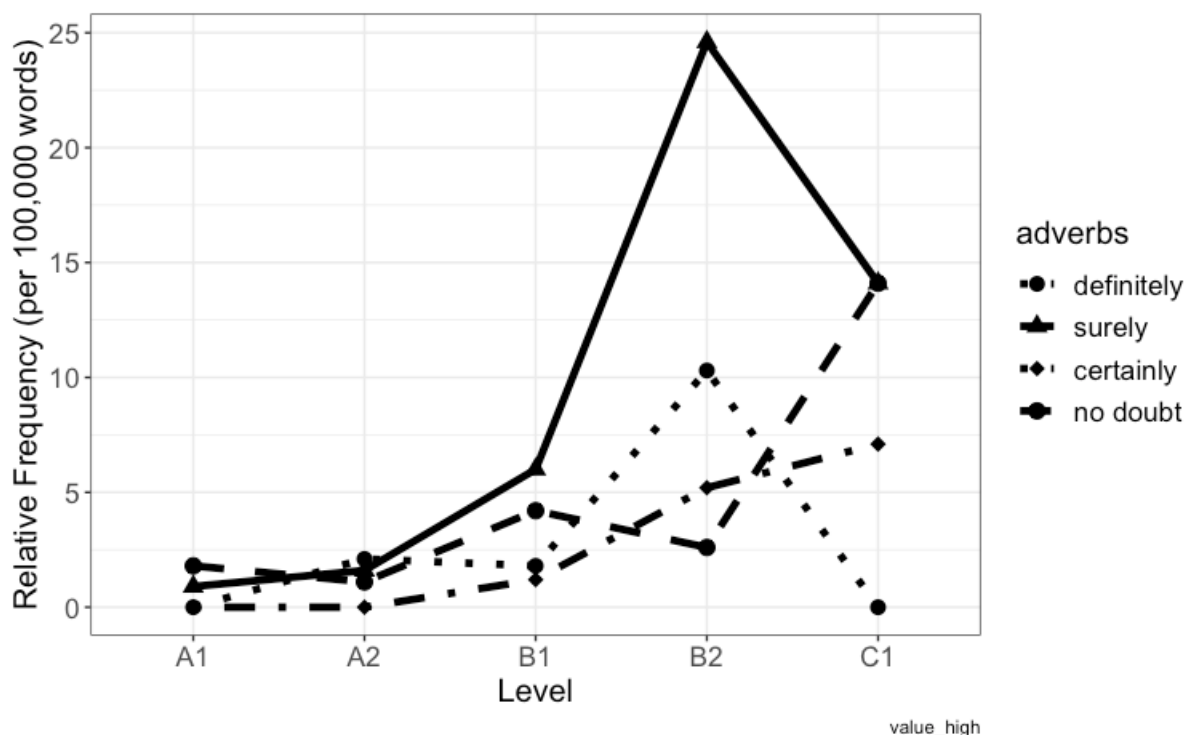


Figure 3.14 Distribution of high value group

Figure 3.14 illustrates four high value adverbs which show higher frequencies. There is no large distinction between A1 and A2, yet B1 group start to use these adverbs more sporadically. In B2, *surely* and *no doubt* are used most frequently whereas *definitely* is used the most in C1. The detail of these usages is analysed in the following section.

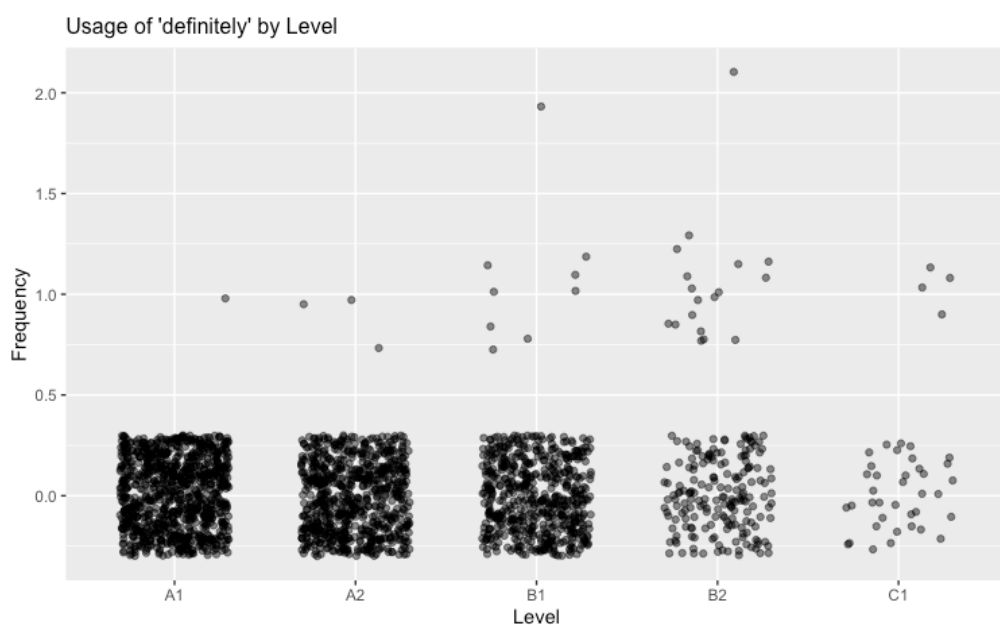


Figure 3.15 Distribution of raw frequency of *definitely* across all proficiency levels

First, *definitely*, which is used to show something in ‘a definite manner; determinately, precisely’ (*OED*), is explored. It is used more frequently in the written mode than in the spoken mode discussed in the previous section, in particular by B2 and C1 groups,

as illustrated in Figure 3.15. However, in topic 73 conducted by B2 group, a task prompt might affect their word selection, as it encourages students to use some high value adverbs and specifically mentions *absolutely*, but not *definitely*¹⁰. Nevertheless, this topic accounts for 35.1% of use of *definitely* in writing, 13 instances out of 37 instances, exemplified in both (67) and (68). The usage of *definitely* in (69) is rare in the spoken mode, and here the JLE emphasises the preceding contents using the adverb.

(67) Hi Anna! I have found a *definitely* suitable job for you. (166621_B2_73)

(68) Hi, Anna ! I've found a *definitely* fantastic job for you. (118941_B2_73)

(69) He is short, fat and bald. *Definitely* he is not attractive. (37083_B1_62)

As the writing is not interactive task, there is no instances *definitely* used as a reply, as exemplified in (12) above in the spoken data.

Surely also indicates a state of being certain to achieve a goal or purpose, but it is less definite than *definitely*. *Surely* frequently collocates with *will*, as can be seen in (70) to (72) and also in instances in the oral data. It occurs at the beginning of a sentence in (70), preceding *will* in (71), and after *will* in (72). The related form, *for sure*, is used only by B2 group learners, and only in topic 93 where the learners are required to correct typos.

(70) *Surely*, I will make mistakes lots. (145097_B1_50)

(71) [...] as your leader of the student council, it *surely* will be a the right decision. (34190_C1_97)

(72) Watching their trend movement successfully, we will *surely* be able to exist in the publishing industry for [...] (115206_C1_99)

(73) I believe that it would be better *for sure*. (140948_B2_93)

In the written data, there is no usage as an affirmative reply equivalent to *yes*, *certainly*, as shown in (24) in the spoken data. Instead, it is solely used to emphasise verbs, as in (74) or (75). The task seems to provide a prompt as eight cases that are almost the same are found, such as (76) and (77) identical.

(74) This movie is happy end. Please watch this movie. You *certainly* feel happy, after watch it. (66132_A2_41)

(75) You *certainly* get better. (66132_A2_46)

(76) Consequently, the company should *certainly* pay me for working the two weekends. (172913_B2_87)

(77) Consequently, the company should *certainly* pay me for working the two weekends. (90480_B2_87)

Compared to other high value items, uses of *apparently* and *obviously* are limited. Both adverbs are used only once each in the data set, shown in (78) and (79).

¹⁰ An instruction for Topic 73 is provided as below:

<topic>Helping a friend find a job</topic>

<writtenTask>Send Anna the zookeeper's job ad. It deals with animals, it's outside and it looks exciting! Write an email to Anna encouraging her to apply for the job. Try to use words and phrases such as 'absolutely', 'totally', 'by far the...', 'amazing', 'exhilarating', 'urge' and 'encourage'. Write 100-150 words. Begin your email like this: Hi, Anna! I've found an absolutely amazing job for you. Let me tell you why you should apply...</writtenTask> cited from https://philarion.mml.cam.ac.uk/task_screenshots/EFwrittenTasks.xml accessed on

(78) *Apparently* he was murdered because there was a jewel-encrusted dagger nearby (2662_B2_90)

(79) Taking them carrying the same weight is *obviously* unfair and can be considered as discrimination. (174700_B2_74)

3.3.3 Median value in written data

Figure 3.16 shows the frequency of the median-value markers. For *maybe*, although the effect of the topic can be seen in A2, which is mentioned in the next section, the general trend shows a decrease in the use as the proficiency level rises. In contrast, *probably* shows the opposite pattern. C1 level group use it most frequently. The frequency of *perhaps* remains at nearly zero, which is lower than in the spoken data.

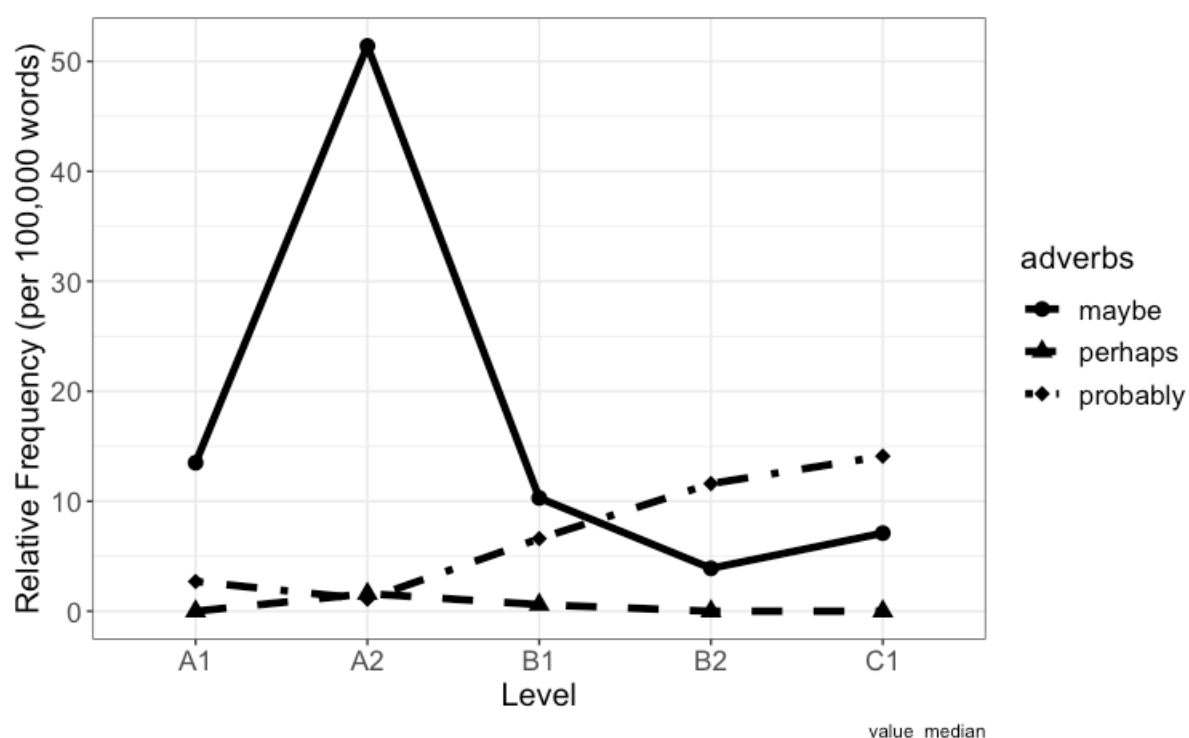


Figure 3.16 Distribution of median value group

As in the spoken data, *maybe* is the most frequently used epistemic adverb in writing. Figure 3.17 presents raw frequencies for each group of JLE. It should be noted that topic 33 in A2 provides the prompts including *maybe it will* in (80). Therefore, the A2 group shows the highest frequency of *maybe* compared with other groups. In the topic, 79.2% of use, i.e. 76 out of 96 occurrences is found in A2 group. However, this is in line with previous studies such as Fordyce (2009) where lower-level groups rely more on the epistemic adverb *maybe* to realise epistemic modality in writing. In contrast, it is less used by advanced proficiency groups: examples (81) and (82) are the only instances by intermediate or advanced JLE.

(80) [...] it was raining, I think *maybe* it'll rain this year too. (173939_A2_33)

(81) [...] engaged in a suitable occupation is a everyone's desire. *Maybe* we all have experienced starting to think that we are [...] (22947_B2_85)

(82) It was *actually* strange, but *maybe*, most of the passengers must have thought [...] (67073_C1_112)

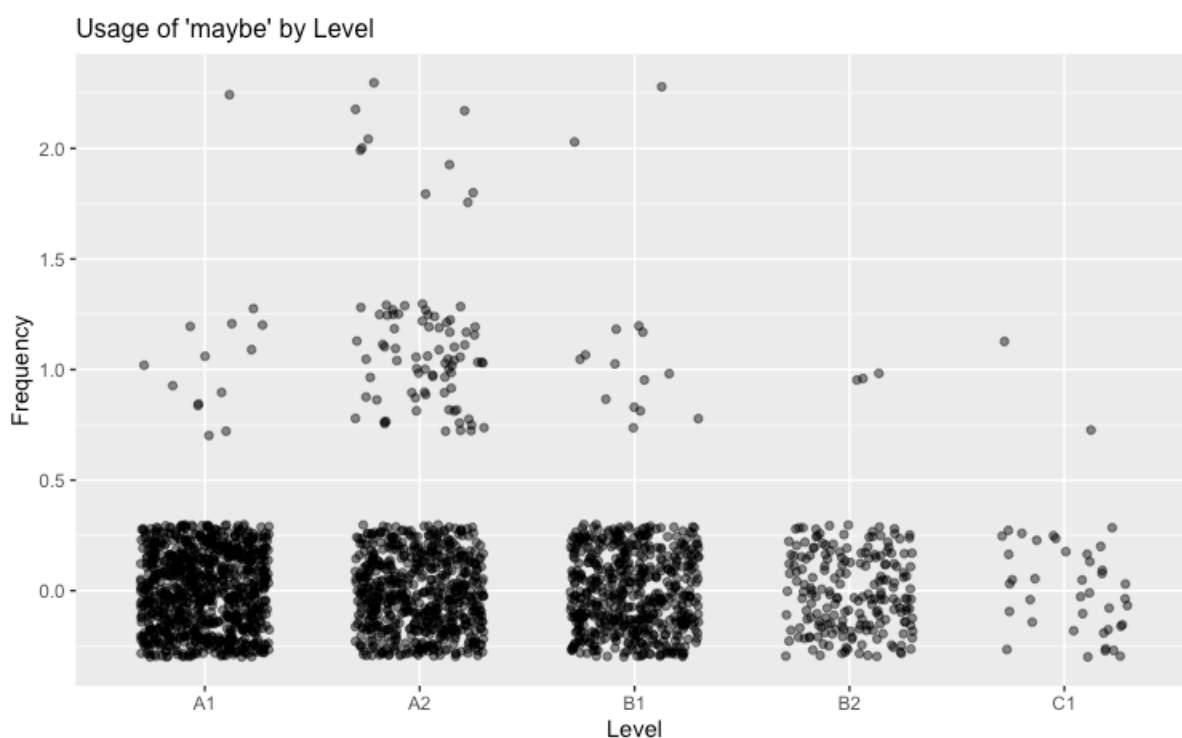


Figure 3.17 Distribution of raw frequency of maybe across all proficiency levels

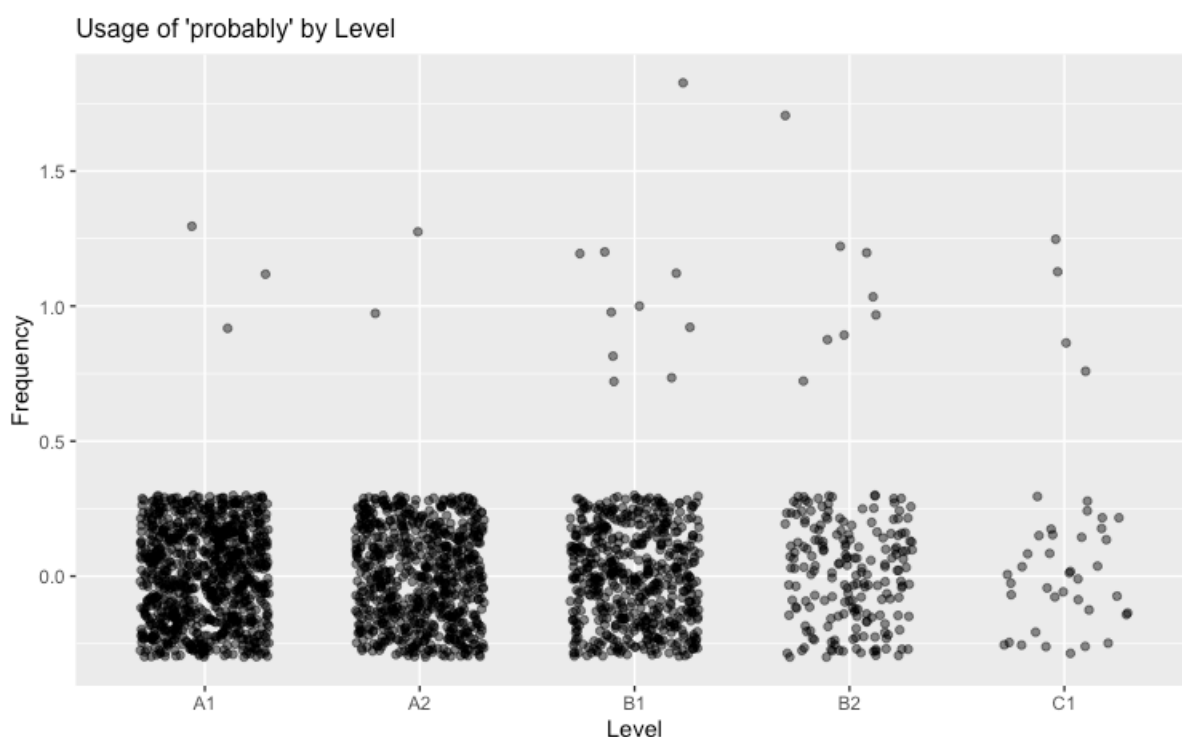


Figure 3.18 Distribution of raw frequency of probably across all proficiency levels

Looking more closely at its use, a noticeable feature in the data is that *probably* collocates with a modal verb *will*. This pattern is similar to that shown in the spoken data but it occurs in a greater proportion of the examples, as the total number of occurrence is lower in writing. The commonality among all the examples in (83) to (88) is the positioning of *probably* before

will, which suggests L1 transfer. This sequence, where *probably* is followed by *will*, typically occurs in their L1 language. Additionally, as figure 3.18 illustrates, the frequency of *probably* consistently increases with the rise of proficiency level, which is again similar to the pattern found in the spoken data.

- (83) *Probably* it'll be sunny day tomorrow. (136378_A2_33)
- (84) *Probably* the boss *will* be changed at an early date. (170227_B1_52)
- (85) After I retire from my job, *probably* I *will* watch them for long hours as friends. (4800_B1_53)
- (86) After listening it, *probably* you *will* become to feel nostalgic. (131538_B1_58)
- (87) Please don't use elevated because *probably*, you *will* be confined in the elevator. (74395_B1_69)
- (88) pictures of some extinct animals, like dodo, but *probably will* find out. (90480_C1_103)

Perhaps is the least frequent adverb among other items in the median value group. Only the A2 and B1 groups use *perhaps* and there are no examples found in the A1, B2, and C1 groups. In addition, use with modal verb *will* to describe volition for the future is not found at all, but is frequently seen in the spoken data. Instead, *perhaps* is used to state the reason for the writer's proposition, as in (89) and (91).

- (89) [...] but sometimes I can't feel happy because *perhaps* this work isn't dedicate [sic] to solve social issue of all the world. *Perhaps* I make trash all day. (132666_A2_25)
- (90) So why don't we go to the safari park? *Perhaps* there are many monkeys and that is going to be [...] (70551_A2_35)
- (91) I studied hard every day, *perhaps* have been studying for 8 hours a day. (100161_B1_52)

The most striking feature of this group is that the frequency of occurrence of *maybe* is low. This contrasts with the results for *maybe* in the spoken data and to the other median value expression *probably* in writing. A2 use *maybe* most frequently and use decreases significantly at B1 level. In contrast, *probably* is rarely used in the lower groups A1 and A2, but B1 group use it at almost similar frequency to *maybe*. B2 and C1 use *probably* more than *maybe*, but this is only the case in the written data.

3.3.4 Low value in written data

Within the low-value group, Figure 3.19 indicates that the adverbs *possibly* and *kind of* are utilised more frequently by the C1 level group. The usage of *kind of* gradually increases with each level, albeit at a relatively modest pace. The similar expression, *sort of* is recorded in four instances but does not express epistemic stance in any of these cases. Similar to the spoken case, *actually* sees notably higher usage compared to the other two adverbs. The B1 level group uses *actually* the most, but it is worth noting the existence of an outlier showing repeated usage by an individual learner, which will be discussed in detail in the following section. Apart from the repeated use at B1, the graph shows a relatively steady increase in frequency as proficiency level ascends. Just as with the spoken data, there is a decrease in usage at the C1 level. This can be attributed to the expanded range of choices available to C1 learners, such as *kind of* or *possibly*, as indicated in Figure 3.19. The subsequent sections of this chapter delve into the specific details of each marker.

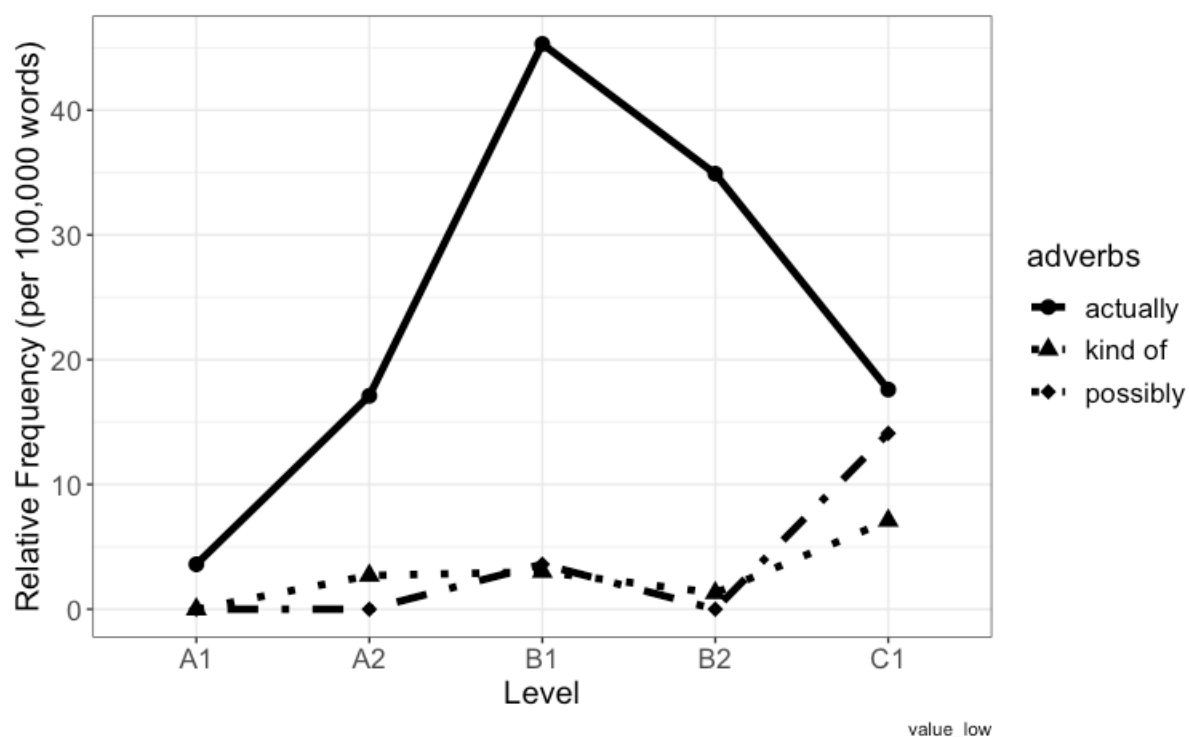


Figure 3.19 Distribution of low value group

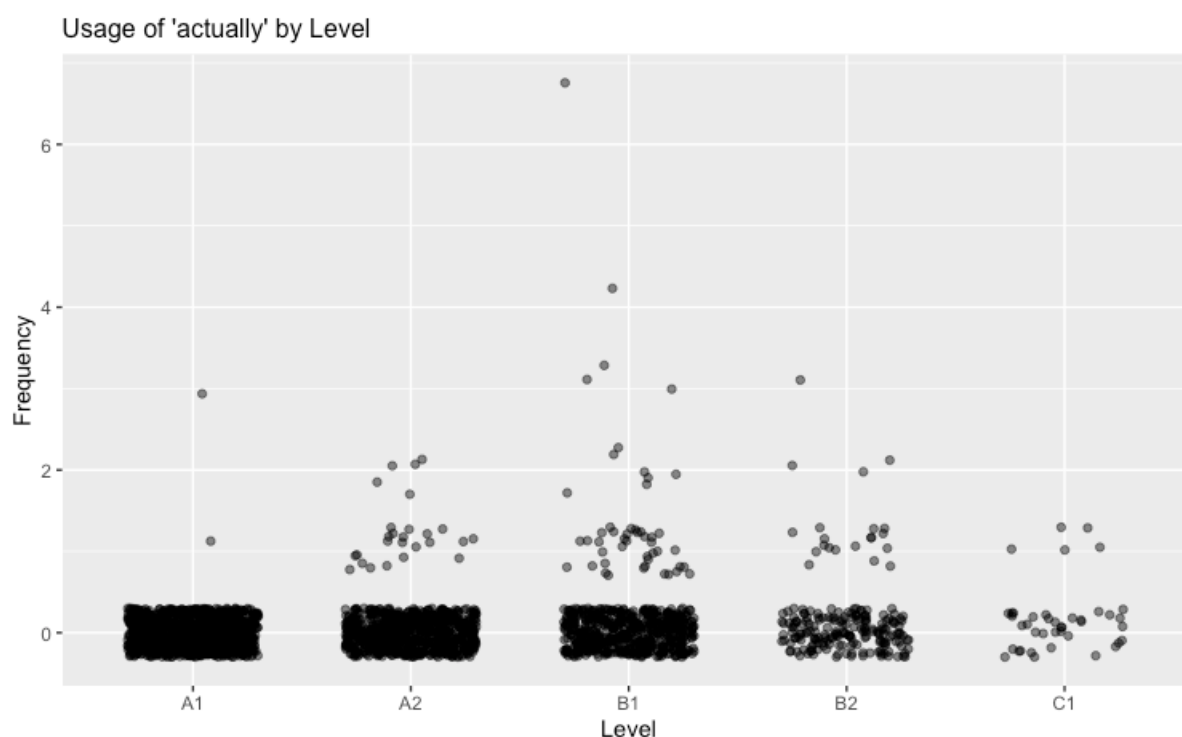


Figure 3.20 Distribution of raw frequency of actually across all proficiency levels

As mentioned in the previous section, *actually* is the second most frequently used adverb, especially by intermediate groups such as B1 shown in Figure 3.20. Only four cases are found in A1 data, three of which are from the same learner, exemplified in (92). Even though the proficiency level is A1, as the speaker is living in Mexico and using multiple languages, the writer may be familiar with using modality compared to the same CEFR group

learners. The frequency of *actually* reaches its peak at B1 level and decreases sharply to B2 and then C1. In the low value group, the other two forms, *possibly* and *kind of*, increase in C1.

(92) I'm from Japan, but I *actually* live in Mexico. I speak Spanish, English and [...]
(75135_A1_16)

As discussed in Chapter 2, *kind of* and *sort of* are not always used epistemically. Epistemic use accounts for 7% of instances of *kind of*, 16 out of 245 occurrences, and the epistemic use of *sort of* is not found. Although the frequencies are limited, *kind of* is used primarily to hedge what the writer describes or asserts. In particular, the intention of the writer in each case seems to be to reduce the impact of negative adjectives such as *fat* in (93) *old* in (94), and *out of fashioned* in (95).

(93) My mother is 62 years old. She's tall. *Kind of* fat. (157908_A2_29)

(94) Because magazine market is *kind of* old. So it could be matured. (141431_C1_99)

(95) ...is classic, but it is too old, and *kind of* out of fashioned. (141431_C1_105)

Possibly is used primarily as a downtoner in request phrases in the spoken data as described in the previous section, and this is shown in examples (96) to (105) below. In contrast, the same use, namely used as a request phrase in (96), is the only one out of ten cases where *possibly* is used in the EFCAMDAT.

(96) Could you *possibly* add much more salad in the next time? (35991_B1_65)

The remaining occurrences, seven cases from (97) to (105), does not express requests. As dictionaries such as *OED* and *OALD* suggest, here *possibly* is considered a synonym of *perhaps*.

(97) *Possibly*, Tom might buy into media. (7663_B1_56)

(98) That's *possibly* true. I think people, who are good looking (68402_B1_56)

(99) Even if things become changing, but it may *possibly* getting better for our lives.
(30871_B1_58)

(100) We can *possibly* give you a special offer. (46610_B1_67)

(101) But after investigating we *possibly* find weak points of the company.
(141431_C1_99)

(102) Your salary will be *possibly* down more. (141431_C1_100)

(103) And if we *possibly* search the candidate who has the experience like yours in
[...] (141431_C1_107)

Examples (104) and (105) below illustrate a typical usage of this expression in its negative form, which serves to intensify the negation. These are the only two instances found in the dataset, suggesting that most JLE are not familiar with this expression.

(104) We couldn't *possibly* give you a large discount on that quantity, but [...]
(78786_B1_67)

(105) The company doesn't *possibly* care so much about the competitors.
(141431_C1_99)

3.4 Comparison with native speakers of English

Thus far, this analysis has explored the development of JLE across proficiency levels. From a language education perspective, it is crucial to understand how this development progresses beyond Level 9 and to identify any differences in the use of epistemic devices compared to NS. For this purpose, this section primarily compares the Level 9 group (corresponding to CEFR B2 to C1) with NS, both quantitatively and qualitatively.

This passage details the dataset and method used for the analysis. The NICT JLE corpus, which includes data from NS, features target devices as identified in Table 3.1 and displayed in Table 3.5. The original dataset encompasses data from 20 American English speakers who undertook the same tasks in the Standard Speaking Test, totalling 96,727 tokens. The comparison considers multiple variables, initially focusing on the mean frequency per speaker. As no assumptions of population homogeneity are made, Welch's independent sample t-test (hereafter referred to as t-test) is utilised to assess significant differences between the two groups, NS and JLE (Brezina, 2018). This method offers advantages over comparing total numbers using chi-squared tests or log-likelihood because it allows for the identification of individual variations in the use of epistemic markers between NS and JLE. Statistically, this approach anticipates uneven variance across the distribution of frequencies by speakers (see Lijffijt et al., 2016). Addressing this uneven distribution is essential, as it places greater emphasis on individual speaker styles, a key consideration in corpus pragmatics and SLA research (Callies, 2013; Gablasova et al., 2017; Taguchi, 2012).

3.4.1 Results of comparison

Table 3.6 presents the results of the t-test, which compares the mean relative frequency per speaker between NS and JLE.

Table 3.6 Comparing frequency of epistemic adverbs between NS and Lv9

	Mean rel.freq. per speaker (NS)	Mean rel.freq. per speaker (JLE Lv9)	p-value (Welch)	Cohen's <i>d</i>	95% confidence interval
maybe	11.01	6.12	.037	.67	[.31, 9.47]
actually	13.69	2.90	<.001	1.85	[6.51, 15.07]
kind of	9.77	1.49	<.001	2.01	[5.12, 11.43]
probably	6.77	2.15	.001	1.09	[1.93, 7.31]
sort of	4.5	0.55	.128	.62	[-1.24, 9.13]
perhaps	0.31	0.24	.695	.10	[-.29, .43]
definitely	1.71	0.08	.014	1.04	[.36, 2.9]
certainly	0.21	0.00	.107	.66	[-.05, .46]
obviously	0.51	0.24	.188	.41	[-.14, .67]
possibly	1.09	0.04	.009	1.11	[.29, 1.8]
apparently	0.16	0.12	.820	.06	[-.29, .37]

Overall, NS use epistemic stance markers more than JLE, except *for sure*, although the difference is negligible. Among these epistemic adverb expressions, the results show that six expressions, *maybe*, *actually*, *probably*, *definitely*, *possibly*, and *kind of*, are used by NS, statistically significantly more frequently. The effect size Cohen's *d* demonstrates *maybe* ($d = .67$) as medium and the rest as large: *actually* ($d = 1.85$), *kind of* ($d = 2.01$), *possibly* ($d =$

1.11), *probably* ($d = 1.09$), and *definitely* ($d = 1.04$) (Torchiano, 2016). Figure 3.21 is a boxplot that visually presents these statistically significant differences. The line inside each box shows the mean frequency of each group, with NS on the left and JLE on the right. The upper and lower edges of each box represent the 75th and 25th percentiles, respectively. The round points above the boxes indicate outliers.

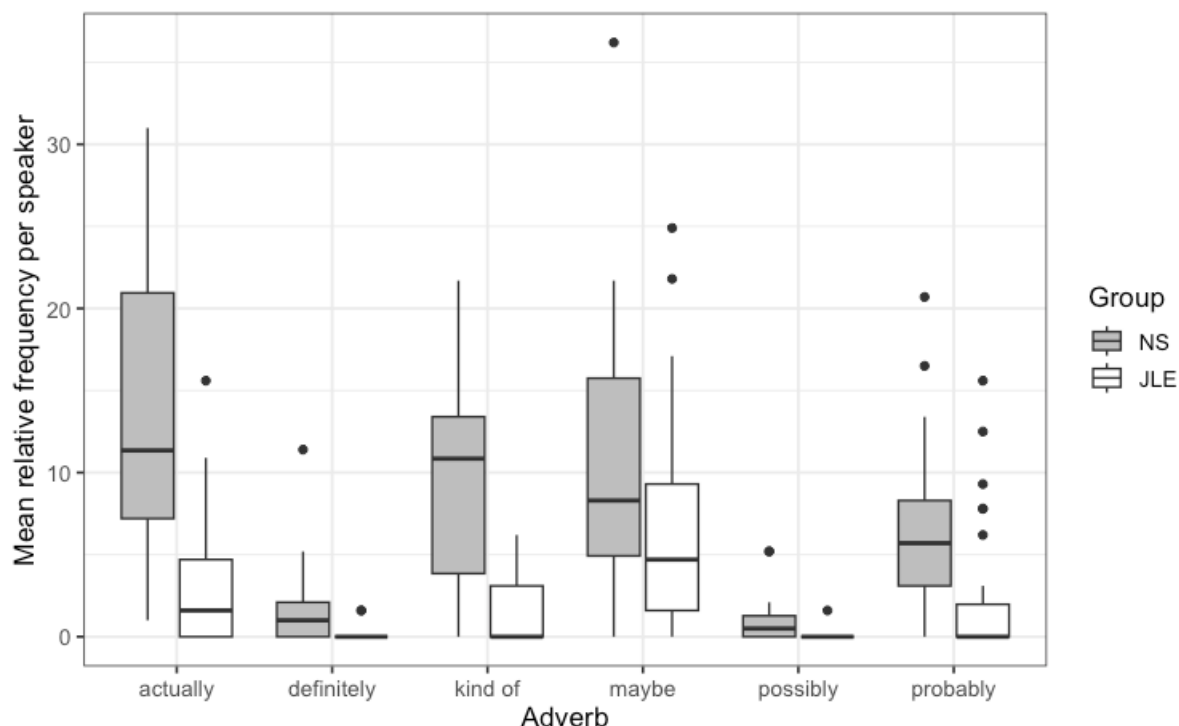


Figure 3.21 Boxplot of mean relative frequency for five adverbs with significant difference in NS and JLE comparison

Among the adverbs classified as high value, *definitely* is the only one used statistically significantly more by NS than by JLE. The results indicate $t(19.33) = 2.69$, $p < .014$, with a large effect size, Cohen's $d = 1.04$, 95% CI [0.36, 2.9]. JLE use *definitely* to strengthen their assertions, as illustrated in examples (106) and (107), which are the sole instances at Level 9. This pattern is not distinct if the analysis expands to lower level groups such as Levels 7 and 8, CEFR B1 to B2, respectively.

(106) And and comparing summer with winter, ah I get I can *definitely* say that I like winter much, much more. (file01188_9_1)

(107) I'm really sorry but if there's another chance to go, then I would *definitely* want to go, too. Why? (file01256_9_3)

Examples (108) to (111) feature utterances by NS, all of which demonstrate nuanced use of epistemic devices to navigate levels of certainty or uncertainty. In example (108), the speaker uses epistemic markers with contrasting directions, such as *definitely* and *maybe*, in succession. *absolutely perhaps* likely influences these usage patterns.

(108) [...] I mean, like, it's *definitely* still crazy and like would like *definitely* like *maybe* make me like really tense and not like it. (file00013_ns_7)

In (109), the statement *I will definitely* expresses a strong intention, which is then softened by the addition of *I think*.

(109) So ur I think I will *definitely* stay at home for a while. (file00005_ns_5)

Example (110) illustrates a usage where *definitely* is immediately followed by *probably*, combining terms that typically signify different levels of certainty. While this pairing might seem contradictory, such usage is common in English-speaking cultures, illustrating the flexibility of natural language use.

(110) Urm I mean, like, that *definitely probably* wore off, though. (file00013_ns_7)

Example (111) uses a mix of *I guess* and *definitely*, again showing the combination of differing levels of certainty within a single statement. Exposure to natural, informal expressions like *definitely maybe* or

(111) Urm I guess ur *definitely* in my high school, people didn't pay attention a lot.
(file00013_ns_6)

Maybe is one of the most frequently used adverbs by JLE in the current data set. However, this result shows it is used almost twice as frequently per speaker by NS. The t-test shows a medium size effect ($p < 0.37$, $d = 0.67$, CI [0.31: 9.47]). It should be noted that the fact that the findings of Biber et al. (1999) demonstrate that *maybe* is used in both American English and British English, but it is far more common in the former variety (p. 868). The existing literature and dictionary entries suggest that people are more certain about things that they mention using *probably* than *maybe* (Ozaki, 2012). However, 17 examples out of a total of 131 examples use *maybe* and *probably* in the same sentence, as in (112) and (113), and this is one of the reasons NS use more *probably* than JLE in this data set.

(112) *Maybe* everyone has survived *probably* everyone has survived the plane crash and that's why they were so happy when they [...] (file00005_ns_4)

(113) So I guess you'd *probably* arrive in XXX by *maybe* by plane, *probably*.
(file00006_ns_7)

This is similar but different from the case of *definitely-probably* because both *probably* and *maybe* express uncertainty. In this case, it seems as though speakers use either *probably* or *maybe* intentionally to express their uncertainty appropriately by restating either of them, or another possible explanation is just to avoid the repetition of similar epistemic markers in the same sentence.

Maybe is used to mitigate when suggesting something. In (114), the speaker uses it with the conventional request phrase *could you* in the middle of sentence, and at the end in (115). In a different pattern, it is used to modify subsequent clauses in (116).

(114) So could you *maybe* pick us up at nine-thirty? (file00004_ns_3)

(115) [...] could you explain to them that we had some car trouble, *maybe*?
(file00013_ns_3)

(116) Well, is there is there any way that *maybe* we could change my ticket to ur *maybe* I could catch the next train? (file00013_ns_3)

The results for *actually* show a large difference between NS and JLE. ($p < .001$, $d = 1.85$, CI [6.51, 15.07]). Aijmer (2013) explores the function of *actually* in conversation, to indicate, a change of mind. It is often realised by the phrase *Oh actually*, such as in (117).

(117) I come every day. Ye well not on weekends. *Oh actually*, I'm lying. No. I come on I don't come on weekends [...] (file00006_ns_5)

As for *possibly*, the number of examples by JLE in the Level 9 group is limited. The only example is in (118). *Possibly* is used with a request expression *could you*, and is not used to mitigate the request, but to convey a possibility that a manager might be a better choice to talk to.

(118) Mmm well could you get your colleague or *possibly* your manager is better [...] (file01211_9_3)

In contrast, using it along with a modal verb *could* seems to be common among NS data, but the uses are not necessarily to make requests as shown in (119) to (123). *Possibly* in (119) to (122) are used in a phrase subject plus *could possibly*. *Could* is examined in Chapter 5, yet this modal verb itself is less used by JLE.

(119) [...] the most annoying way they could *possibly* try to communicate with you. (file00011_ns_1)

(120) And if there would be some way that we could *possibly* redress the situation (file00003_ns_3)

(121) But, you know, if you could *possibly* make an exception in in this one case (file00003_ns_3)

(122) I guess that fits the rest of description I could *possibly* say. (file00007_ns_5)

In (123), *possibly* is used to show the strong negation. In addition, the position at the end of the sentence is not found in learners' samples.

(123) [...] don't understand how you could bill me for it, *possibly*. (file00014_ns_3)

These findings indicate JLE's unfamiliarity with *possibly* in mitigating a request, and its use as an intensifier with *can* or *could*. Although the *OED* states that it is 'frequently used as an intensifier of *may* or *might*,' there are no instances of it being used with *may* or *might* by either NS or JLE in the NICT JLE corpus.

In regard to *kind of* and *sort of*, the result of t-test of *kind of* shows a statistically significant difference. $t(19.33) = 2.69$, $p < .001$ and the size of the effect is large $d = 2.01$, 95% CI [5.12, 11.43]. NS use *kind of* approximately 7 times more frequently than JLE in mean per speaker. This is the largest gap among the target adverbs. In many cases, *sort of* is used interchangeably with *kind of*, but there is no statistically significant difference between JLE and NS ($p > .05$). In both (124) and (125), the same speaker is talking about how to solve problems. When the problem is complicated, he insists it is tougher to solve. The utterance is more hedged by using *kind of* and *sort of* repeatedly. This raises the frequency of occurrence.

(124) You have to do, you have to say what the problem is, just *kind of* like give it some time to be able to solve itself. (file00016_ns_8)

(125) It's something you have to *kind of* do, and it takes a little bit time to get through that certain things. So like those are sort, *sort of like* you *kind of like* have to say

like what the problem is, and then just *kind of like* give it sometime to be able to solve itself. (file00016_ns_8)

More examples illustrate a sense of politeness than in the case for JLE. In example (126), the interviewer asks about the first impression of a town in Japan. The interviewee mitigates the potentially negative adjective by responding *kind of boring*. This use of *kind of* softens the criticism, making the statement less direct and more polite.

(126) My impression of this town? It looks pretty small. It looks like it's *maybe kind of boring*. (file00013_ns_6)

In example (127), the speaker recounts feeling disappointed because most of the signs he encountered were translated, thwarting his desire to test his Japanese reading skills. The phrase *kind of* is used here to hedge his disappointment, conveying politeness and softening the directness of the criticism. Notably, the corpus metadata reveals that this comment is made with laughter, indicating that the speaker's use of *kind of* may also serve to lighten the tone of the conversation.

(127) And so I, I found it *kind of* disappointing that I, I couldn't practice um all the signs because they all had translations on them. (file00001_ns_8)

In this section, the mean relative frequency of epistemic stance adverbs has been compared between JLE at Level 9 and NS. The results reveal a significant difference in usage frequency. Six adverbial expressions, *maybe*, *actually*, *probably*, *kind of*, *definitely*, and *possibly*, are employed more frequently by NS with statistical significance. The disparity may stem from several factors. First, it could be due to the nuanced semantic differences between these words, or it could be a habitual strategy to facilitate smoother communication. The effective use of epistemic devices is beneficial for speakers or writers as it helps mitigate their statements. Softening the utterance is crucial to accurately conveying the intended message to the interlocutor. Moreover, NS often use epistemic forms to handle interpersonal matters, such as softening suggestions. Developing confidence in these adverbial expressions could help reduce the reticence of L2 language learners.

3.5 Discussion

This chapter has explored the use of epistemic adverbs by JLE to investigate the developmental pattern of their use across different proficiency groups among JLE, and how these adverbs are used in spoken and written data. It also examines the different usage patterns between JLE and NS in the spoken data.

From the frequency point of view, adverbial epistemic stance markers are simply used more with increasing proficiency level, except for Level 9, which is almost the same as Level 7. Table 3.7 below includes the combined usage frequencies for high, median, and low values across different levels of proficiency, along with the total frequency for each level. Figure 3.22 presents this information visually. The decrease in Level 9 is because the frequency of *actually* is less than other group such as Level 8. One possible reason is the low number of participants in this group, a group of 40 out of all the participants of 1,021 (approximately only 0.04%). Therefore, the general trend can be observed that as proficiency level increases, the frequency of using those adverbs also increases.

Table 3.7 Distribution in SFL across proficiency levels in spoken data

value	Lv4	Lv5	Lv6	Lv7	Lv8	Lv9	Total
high	1.9	5.0	11.6	6.5	17.9	18.7	61.6
median	208.3	273.0	311.1	283.0	303.2	339.5	1718.1
low	34.1	100.2	176.0	265.0	317.5	197.9	1090.7
Total	244.3	378.2	498.7	554.5	638.6	556.1	2870.4

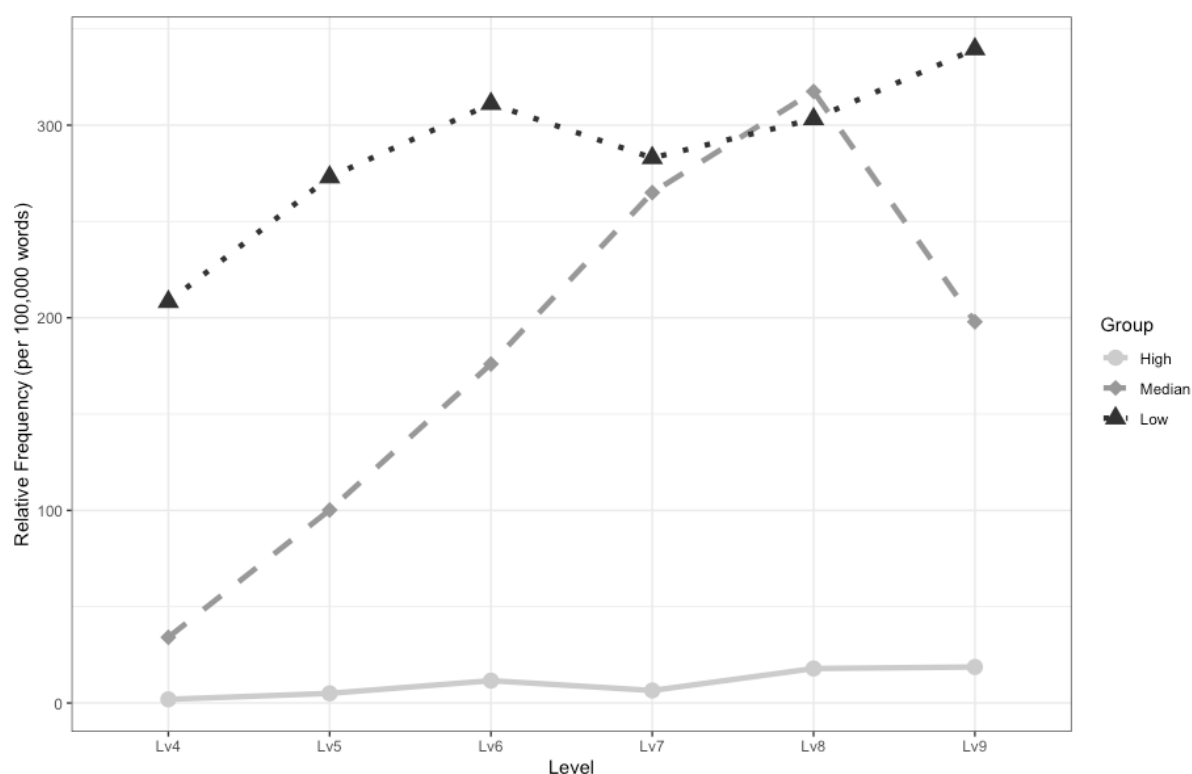


Figure 3.22 Distribution in SFL across proficiency levels

The high value group, which denotes a high degree of certainty about the proposition of the speakers or writers, clearly exhibits a lower frequency compared to other groups. However, use steadily increases as the proficiency level rises. The frequency more than doubles with each advancement from Level 4 to Level 5 and from Level 5 to Level 6. After a temporary decrease at Level 7, the frequency peaks at Levels 8 and 9 among JLE groups. Consequently, a remarkable increase of almost tenfold is observed between Levels 4 and 9. This significant rise is attributed to an increase in the use of the adverbs *obviously* and *definitely*. This suggests that JLE are successful in acquiring skills to express their certainty. This ability is crucial, as while epistemic stance adverbs are not the sole method to convey certainty, they are an important device for this purpose. Without them, lower-level learners cannot communicate their certainty about a proposition, such as evidential meaning, exemplified by the word *obviously* (Pérez-Paredes & Bueno-Alastuey, 2019) or provide strong responses such as *yes*, *definitely*. These interpersonal uses of language can influence the manifestation of solidarity, thus affecting the speaker's maintenance of a positive face.

The median group primarily comprises the adverbs *maybe* and *probably*. Unlike the high value group, these words are used over 200 times per 100,000 words, even in the lower proficiency group. The usage continues to increase until it reaches the advanced Level 9, notwithstanding a slight drop at Level 7. This trend can be attributed to the consistent usage of *maybe* across all proficiency levels and an increase in the use of *probably*. The contribution of the adverb *perhaps* to the overall usage is, however, relatively minimal.

The low value group, expressing a slight degree of modality, is represented by words such as *possibly*, *kind of/sort of*, and *actually*. This group constitutes 30% of the total frequency of adverbial expressions in this study. In terms of the increase ratio, this group presents the most significant difference. The frequency rises from 34.1 at Level 4 to 317.5 at Level 8, surpassing the median group, before experiencing a drop at Level 9.

Table 3.8 Distribution in SFL across proficiency levels in written data

value	A1	A2	B1	B2	C1	Total
high	2.7	4.8	13.2	55.6	35.3	111.6
median	16.2	54.1	17.5	15.5	21.2	124.5
low	3.6	19.8	51.9	36.2	38.8	150.3
Total	22.5	78.7	82.6	107.3	95.3	386.4

Table 3.8 provides the detail for the written data. As shown in earlier sections, a completely different picture of usage can be seen. First, there is much greater use of the high value group. The frequency of 2.7 in CEFR A1 level increases 13.1 times to 35.3 per 100,000 words in C1. In comparison to the spoken data, there is no significant difference at the elementary level, but at the advanced level, JLE use epistemic devices approximately 5 times more in the written data¹¹. While the type of task is not identical in the written vs. spoken data, the fact that speakers are able to take time to think about what they write could cause the increase compared to the spoken context.

For the median group, including *maybe*, *probably*, and *perhaps*, the difference is only 1.3 times between A1 and C1. The development pattern shows a similar trajectory to spoken language, that is a high rate of use of *maybe* by all the levels and increasing use of *probably* with the rising the proficiency level. However, the distinctive difference is that the frequency of *probably* outweighs *maybe* in B2 and C1. Simultaneously, it means the use of *maybe* decreases in B2 and C1. These patterns fit the description of Biber et al. (1999, p. 869) in that *probably* is more used than *maybe*.

The group of low value shows a large increase, featuring a 10.8-fold rise between the A1 and C1 levels. This increase could be ascribed to multiple factors, but two aspects warrant specific focus. First, there is a sharp uptick in the usage frequency of *actually* from the A1 to B2 levels, indicating a 12.6-fold increase. This increase could be a by-product of the learners' improved ability to compose lengthier sentences. For instance, from the A1 to B1 level, the average word count per task expands from 35.0 to 88.8, and the Measure of Textual Lexical Diversity (MTLD, McCarthy & Jarvis, 2010), an indicator of lexical complexity, rises from 54.5 to 76.2 as shown in Table 3.9.

Table 3.9 MTLD in written data

CEFR	Mean wordcount	Mean MTLD
A1	35.0	54.5
A2	61.8	59.2
B1	88.8	76.2
B2	123.0	78.7
C1	165.4	79.9

¹¹ Based on the information in Table 2.3:

- Elementary Level (A2: Lv4 and 5): In the written data, epistemic devices are used 4.8 times, while in the spoken data, they are used 6.9 times.
- Advanced Level (B2 and C1: Lv9): In the written data, epistemic devices are used 90.9 times, compared to 18.7 times in the spoken data.

This data suggests that as their proficiency levels rise, JLE are capable of composing longer sentences using more complex lexical forms. In the process of responding to tasks, they often explain a particular reason or background and subsequently present a counterpoint, which is conducive to alleviate their assertion. For example, in (128), in order to refuse the invitation, the writer describes something positive and then makes an assertion, starting from *but actually*. This leads to the speculation that *actually* is particularly well-suited to this argumentative approach.

(128) I have never met such a lovely person like you before. I am very happy person. Thank you so much. *But actually* I do not want you to say something like this proposal through an e-mail so could you say it face to face when we meet next time please. (171704_B1_62)

Certainty or uncertainty are not stable emotions, and even a speaker themselves is not always aware of their internal view. Wavering feelings are expressed through the high frequency of epistemic devices. For example, interchangeable use of *probably-maybe* can be evidence of the style of speaking. As described in the introduction, spoken language has more dynamic features as it is affected by the real-time pressure; in particular, the data analysed in this study is in the context of language proficiency examination. The interviewer is an examiner who is not familiar with the speaker and it is no wonder that the situation affects their stance taking, reflected in their choice of words. In contrast, writing is more static in general. Writers can contemplate their thoughts and ideas, can read the prompts and can revise the sentences they wrote, even though they are also undertaking a language proficiency test. Even if these prerequisites exist, it is still worth paying attention to the fact that the mapping of value groups demonstrates totally different results from each other.

Admittedly, these data sets consist of different tasks and therefore are not directly comparable. However, it is still evident that JLE use more high value items such as *definitely* in the written context than in the spoken context. This implies that they have knowledge about these items semantically but they can find them unnecessary to use or difficult to use in the contexts analysed in the current study. These differences could be caused by the type of tasks, and this is explored further in Chapter 6.

Distinctive features are shown by NS and JLE. In the case study of section 3.4, the findings show that NS use epistemic stance markers more frequently than JLE. In particular, there are statistically significant differences in the frequency of *definitely*, *maybe*, *probably*, *actually*, *kind of* and *possibly*. The NS data as the subset of NICT JLE corpus has been collected from native speakers of American English. It is worth noting that there are differences and similarities in the usage frequency of epistemic adverbs between American and British English speakers (and also between speakers of other varieties of English).

Table 3.10 Comparison in use of epistemic adverbs between AmE and BrE

Epistemic adverbs	AmE	BrE
probably	900	600
maybe	800	200
perhaps	100	200
certainly	100	100
definitely	100	100
actually	800	700

Words per million.

According to Biber et al. (1999), in conversation, AmE uses *probably* 1.5 times and *maybe* four times more than BrE whereas BrE uses *perhaps* twice as often as AmE speakers as shown in Table 3.10 above, cited from Biber et al. (1999, p. 869). High value items such as *certainly* and *definitely* do not show a difference. *Actually* is used in AmE approximately 10% more often than BrE. Considering these comparisons, it is possible that *maybe* may show different patterns of use if the data were taken from BrE. However, the results of this study demonstrate that NS utilise these linguistic items more frequently and effectively in many cases. In particular, the following three points could be emphasised: hedging the conversation, softening suggestions and emphasising assertions.

NS more frequently use hedges in conversation. Conversely, it is possible that JLE do not use these devices effectively. For instance, in (129), the speaker communicates quite directly their lack of interest in the sports gym. This forthright expression may not pose a problem if it aligns with the speaker's intended message. However, if the speaker seeks to hedge their statement but is unable due to a lack of pragmalinguistic knowledge, understanding the use of these epistemic adverbs to moderate their assertions could be beneficial. This comprehension may enable the speaker to convey their intended message in a more socially appropriate way.

(129) I don't like running or you know, sports gym. It's boring. (file00791_7_1)

Epistemic devices are used to soften suggestions or requests. This is closely linked to hedging but is slightly different, in that speakers may have a more specific purpose that asks for an interlocuter to do something. Softening their requestive force effectively provides advantages to speakers. This is vital because it could help learners, especially lower to intermediate proficiency learners to conduct more modal-rich speech acts. In English, conducting modal-rich speech acts requires the use of modal verbs and interrogative sentence structure, which are complex and not easily available to lower-proficiency learners (Taguchi & Roever, 2017, p. 138). For advanced proficiency learners, the addition of new forms to their pragmalinguistic repertoire, an expanded vocabulary and a broader range of language usage examples are conducive to their fine-tuning of requestive force. In addition, lower proficiency learners could expedite their learning by emphasising usage of these adverbs, along with formulae for making requests, and in turn this might help them to make speech acts with these adverbs because the data suggests they already have the knowledge to use them such as *maybe* or *perhaps*. Input from learning material and interaction in classroom affect learners' language acquisition, and therefore, a greater focus on using epistemic stance markers would be helpful in enabling them to mitigate requestive force. Kasper and Rose (2002) analyses the development of language use for speech acts as below.

1. Pre-basic (highly context-dependent, no syntax, no relational goals).
 2. Formulaic (reliance on unanalyzed formulas and imperatives).
 3. Unpacking (formulas incorporated into productive language use, shift to conventional indirectness).
 4. Pragmatic expansion (addition of new forms to pragmalinguistic repertoire, increased use of mitigation, more complex syntax).
 5. Fine-tuning (fine-tuning of requestive force to participants, goals and contexts).
- (Bella, 2012, p. 1920)

It may take more time for lower proficiency learners to start using modal verbs. However, they could improve their skill by utilising epistemic adverbs they have in their mental lexicon but do not use often, such as *perhaps* or *possibly*.

Epistemic stance markers are frequently used in combination for effective emphasis in combination. For example, JLE use emphatic adverbs such as *definitely* in a rather limited situation, such as when they want to negotiate with an interlocutor in the task where they ask for a refund. In that situation, it is helpful to be able to emphasise a proposition. Choosing high value items such as *definitely* or *obviously* could be an effective choice, as a logical explanation is sometimes not feasible due to the constraints of learners' proficiency levels.

Epistemic verbs such as *I think* and *I guess*, explored in the next chapter, are used to both hedge and emphasise. Ultimately, what is most important is to have the skill to realise the desired modality, in other words, to be able to adjust certainty, or uncertainty about their knowledge, their beliefs, et cetera. In this sense, the skill to use epistemic devices not only individually but also in combination is important. For instance, in (130), quoted in the previous section, *definitely* is used with a subject clause and the epistemic verbs such as *I think*, and similar examples include *I mean* or *I guess*. The use of these verbs is discussed in Chapter 4, but they are also used to mitigate speakers' assertions. In (131), alongside the verb phrase *I mean*, both *probably* and *definitely* are also used.

(130) So ur *I think* I will *definitely* stay at home for a while. (file00005_ns_5)

(131) Urm *I mean*, like, that *definitely probably* wore off, though. (file00013_ns_7)

A limitation of this study is that the NS data are sourced exclusively from spoken interactions. This decision is made to capitalise on the benefits of using the NICT JLE corpus, which includes a subset of NS data, and it facilitates comparisons of data collected through identical tasks, which could significantly influence the results if they varied. However, in order that the study is not limited to comparison of the spoken data, Chapter 6 of this thesis will explore NS data from written sources that has been collected specifically for this purpose.

3.6 Conclusion

This chapter has explored the use of adverbial expressions by JLE. In the spoken data, in the framework of SFL, the result shows a reliance on median value items such as *maybe*, and *probably*. These consist of nearly 60% of all epistemic adverbs. The second largest group is low value items such as *actually*, or *kind of*, which accounts for 38%. As much of the literature suggests, *maybe* is the most frequently used adverb. A noticeable feature of the spoken data is extreme low frequency of the items categorised as high value, only 2.1%. These include *obviously*, *apparently* or *definitely*. Due to the dynamic nature of spoken language, it is possible that there are fewer opportunities for JLE to use adverbs that express strong certainty. However, in limited situations such as negotiations, these adverbs are used to enable speakers to assert their opinions rather strongly.

By contrast, the written data show a different mapping of the use of epistemic forms. High value adverbs account for 28.9%, which is more than fourteen times more than in the spoken data, although the tasks are different and cannot be compared directly. More specifically, the adverbs *surely*, and *no doubt* are used more in writing. It is possible that the increase of high value items could be due to the nature of writing, as generally writers have more time to think and therefore they can probably be more confident about their propositions. In other words, the use of these adverbs to show certainty could impose a cognitive load. The share of the low value group is 38.9%, which is almost identical to what is found in the spoken context. These results lead to a lower proportion of the median value adverbs, 32.2% in the written data. This result is attributed to the large decrease in the use of

maybe. These different mapping indicates that JLE have a range of epistemic stance markers in their mental lexicon, yet use is restricted in some situations.

The differences in use of epistemic stance forms across the proficiency groups reveals that a steady increase across proficiency levels is rare. The adverb *probably* shows the most straightforward rise in frequency with the rise of the proficiency level. It may be a diagnostic for the development of the learners' skill in expressing epistemic stance. A similar pattern is found in the development of *actually*, which is used the second most frequently by JLE. The lower proficiency group already use it and the frequency keeps increasing up to Level 8. However, this frequency drops suddenly in Level 9, and the reason for this drop is unclear: it could be the result of individual preference as Level 9 consists of the smallest group of speakers, only 40. *Possibly* and *perhaps* do not increase at all even as proficiency level rises. The epistemic use of *kind of* and *sort of* is shown relatively clearly by the higher proficiency group such as Levels 7, 8, and 9.

In the written data, although high value group accounts for a third of the data, the A1 and A2 groups rarely use high value items to show certainty. However, the B1 group do use them, especially *surely* and *definitely*. Use of *surely* is rarely seen in the spoken data whereas it is used in the written data to describe something that will happen with high possibility. A2 use *maybe* most frequently and use of this adverb decreases at B1 level. In contrast, *probably* is rarely used in the lower groups A1 and A2, but B1 group use it at almost similar frequency to *maybe*; B2 and C1 use *probably* more than *maybe*, but this is only the case in writing. For the low value group, *actually* is used most frequently, and the same is true in the spoken data. The developmental pattern is also similar to the spoken data as *actually* is rarely used in the A1 group but sharply increases in A2. Use culminates at B1 and then decreases in B2 to C1. Again, the reason for this decrease is unclear. It is even rarer that *possibly* and *kind of* are used by JLE. Only C1 group use them. The epistemic use of *sort of* is not identified in JLE in writing. These results are in line with Biber et al. (1999, p. 869) who show that *kind of* and *sort of* are rare in writing in the text types fiction, news, and academic writing. However, this study finds a different result in the frequency of *perhaps*. Biber et al. (1999) find that this is used more in writing, especially in fiction and academic writing, but in this study, JLE do not use it in either spoken or written data. This could be because learners' input from textbooks or learning materials primarily inclining towards *maybe* or *probably* for expressing uncertainty, they tend to use these phrases more frequently than *kind of*.

The comparison with the use of epistemic stance markers in the spoken context by native speakers of American English (NS) illustrates a complex picture of usage quantitatively and qualitatively. Quantitatively, the average frequency of each form in the spoken data is compared in NS and JLE using Welch's t-test, and this shows a significant difference in the six adverbial expressions *actually*, *definitely*, *kind of*, *maybe*, *possibly*, and *probably*. These adverbs are used significantly more by NS with a large effect size, except *maybe* which shows a middle effect. Qualitatively, an analysis of the examples shows that NS quite frequently hedge their utterances in conversation. In particular, *kind of* and *sort of* are the most frequently used for this purpose. Another usage of epistemic adverbs is as downtoners, which mitigate the requestive force. This is realised as part of a conventional indirect request form such as *could you maybe*, or added at the end of sentence as adjunct. Combinations with other epistemic forms such as verbs or modal verbs need to be considered.

The points discussed in this chapter are important because using epistemic markers allows learners to convey modality, including their personal feelings, which can potentially increase their motivation for language learning. In real life, it is essential to convey something to an interlocutor beyond a fact. For example, JLE are able to show pragmalinguistic knowledge by using high value items such as *definitely* in order to negotiate

in a situation like asking for a refund. In addition, epistemic devices are vital to maintain positive social relationships, for example by mitigating utterances or pieces of writing by using appropriate downtoners such as *perhaps* or *maybe* in making requests. In Chapter 4, epistemic verbs are investigated using the same framework and data.

Chapter 4 Epistemic verbs

4.1 Introduction

In the previous chapter on the use of epistemic adverbs, the findings indicate that the developmental pattern shown by Japanese learners of English (JLE) is not linear and shows different patterns depending on adverbs. Usage is also different in the spoken context compared to the written context. For example, adverbs to show uncertainty such as *maybe* are used more frequently in the spoken mode whereas high value forms such as *definitely* and *surely* are used more in the written context.

It is not only adverbs that realise epistemic modality; many verbal expressions function in a similar fashion. This chapter investigates the use of epistemic verb expressions spoken and written by JLE. For example, *I think* functions as an epistemic stance marker, as shown in (1) to (3) below.

- (1) Since last year *I think* they have improved.
(Biber et al., 1999, pp. 972-973 emphasis added)
- (2) you've got that wrong *I think*. (Holmes, 1990, p. 188)
- (3) *I think* you should rewrite this paragraph in the active voice.
(Mackiewicz and Riley, 2002: 417 emphasis original)

One striking difference compared to adverbs is that epistemic verbs such as *I think*, *I believe*, or *I guess* co-occur with a *that*-clause where *that* itself is frequently omitted. In (1), an epistemic verb phrase, *I think*, has a clause *they have improved* and functions to demonstrate the speaker's opinion or uncertainty rather than making a factual statement of whether or not they have improved. In example (2), *I think* is added at the end of the utterance. As this example shows, epistemic verbs of this type such as *I guess*, *I mean*, and *I believe* are often inserted at the end of the sentence. These verbs act like one adverb (Thompson & Mulac, 1991). Like epistemic adverbs, they are used interpersonally to mitigate a speaker's utterance. In (2), although the teacher recognises that the pupil's answer is wrong, *I think* acts as a softener or negative politeness marker (Holmes, 1990, p. 188). Similarly, in (3), *I think* works as downtoner of the advice.

For JLE, selecting an appropriate expression is difficult in considering the nuance each expression has. In (4) the speaker hesitates over which expression best fits the context, switching between *I guess*, *I believe* and *I think* and using *oh no I mean* to self-correct. L2 learners or JLE tend to rely heavily on *I think* (Chino & Mineshima, 2016; Fordyce, 2009; Fung & Carter, 2007).

- (4) ..., so they ah they complained with each other. But, err actually, *I guess* oh no, *I mean*, *I believe* o or *I think* erm everybody can believe the err driving and calling is then dr driving and calling at the same time were is not good. (file01119_6_4)

This chapter examines the developmental pattern of these verbs across the different proficiency levels of JLE in spoken and written contexts, following the previous chapter. Data are also extracted from the corpora, using the NICT JLE corpus for the spoken data and EFCAMDAT for the written data. For the spoken data, the use of epistemic verbs are analysed in comparison to NS.

In addition to *I think* exemplified in (1) to (4) above, there are many verbal expressions to realise modality. The target epistemic verbal expressions examined in this chapter are provided in Table 4.1. The original full list of all epistemic devices is provided in the section 2.4, but the list of verbal expressions is repeated here for convenience.

Table 4.1 Target verbal expressions

I @ think; I @ know; I @ mean; I @ believe; I @ guess; <i>seem</i> ; <i>seems</i> ; I @ suppose; appear; appears; I @ bet; I @ doubt; I @ suspect
@ indicates these data include negative form such as <i>I don't think</i> .

As in the previous chapter, the theoretical framework for analysis uses the high, median, and low values employed in Systemic functional linguistics (Halliday, 1994). Table 4.2 sets out the classification based on criteria in the existing literature (Eggins, 2004; Halliday, 1994; Halliday & Matthiessen, 2014). Among other epistemic verbs, *seem* is categorised separately as explicitly objective. This is because *seem* has quite different characteristics from other verbs. For instance, it is rarely used along with a subject *I* in the phrase *I seem*. Instead, it occurs in the phrases *it seems to be*, *it seems like*, and *they seem*. The original list used by Gablasova contains *appear* alongside *seem*, but preliminary research reveals this occurs very seldom in the data and therefore only *seem* is dealt with in this study. Halliday (1994) treats the negatives in median value as having the same value as their positive counterparts, whereas high and low values change to the opposite category if negated. For example, *I think* and *I don't think* are classified as median value, while *I know* is high value and *I don't know* is low value.

Table 4.2 Classification of verb expressions in SFL framework

Orientation	Value	Target phrase in the current study	Examples from the corpora*
Explicitly subjective	High	<i>I believe</i>	You, <i>I believe</i> , are very talented person and hopeful future.
		<i>I know</i>	<i>I know</i> it wouldn't be easy.
	Median	<i>I think</i>	<i>I think</i> most people would agree with this.
		<i>I don't think</i>	...but <i>I don't think</i> it's good to break a promise because...
		<i>I mean</i>	Well some, occasionally, <i>I mean</i> .
		<i>I don't mean</i>	<i>I don't mean</i> I won't go, I don't want to go but...
	Low	<i>I guess</i> ¹²	<i>I guess</i> it means literally same as picture.

¹² The negation of *I guess*, which occurs in only one case, is categorised in high value.

		<i>I don't know</i>	<i>I don't even know</i> the neighbor's, my neighbor's name .
		<i>I don't believe</i>	... sort of the smooth flow of er the traffic, which <i>I</i> <i>don't believe</i> they did.
Orientation	Value	Target phrase in the current study	Examples from the corpora
Explicitly objective	Low	<i>seem</i> <i>seems</i>	As each of them <i>seems</i> to have its own strong point, [...].

*the NICT JLE corpus and EFCAMDAT

This chapter examines epistemic verb expressions to address the following questions, which are identical to those explored in Chapter 3:

1. What is the developmental trajectory of JLE across the groups?
2. How are epistemic stance markers used in the spoken and written data?
3. Is there any difference in the usage patterns of epistemic stance markers between JLE and NS?

As the previous chapter suggests, the developmental pattern of learners varies. For example *maybe* is used by all the proficiency levels whereas *probably* is used more at an advanced level. Similarly, there should be patterns among the development of verbal expressions. The existing literature suggests *I think* is used the most frequently by elementary level JLE. Low frequency adverbs such as *possibly* and epistemic use of *kind of* is found more frequently by advanced level of JLE. It is expected similarly that low frequency verbs in general such as *seem* or *I mean* will develop with a similar trajectory. It is worth paying attention to this trajectory, as it is conducive to assessment of learners from the viewpoint of vocabulary.

Furthermore, the previous chapter shows a difference between spoken and written use of epistemic markers. The clearest feature is that JLE use high value items which convey certainty more frequently in written contexts, such as *definitely* in the case of epistemic adverbs. One possible reason is that as with language features in general, a writer has more time to think about expression; in a learners' case, this means more time to consider grammatical issues and to correct mistakes and therefore they have greater confidence to use high-value words. In the case of epistemic verbs, it can be hypothesised that JLE will show similar usage. For instance, this pattern can be observed for one of the high value items, *I believe*, in both spoken and written data.

In Section 4.4 of this chapter, the use of these verbal expressions is compared to that of native speakers of American English utilising a subset of the NICT JLE corpus. In Chapter 3, the frequency of *maybe* by NS outweighs JLE, which contrasts with what might be expected. As for verbal expressions, some items are expected to be used by learners more than NS. For example, *I think* is used by learners or JLE as the literature suggests. However, it is worth investigating if the results are all in line with previous studies. In addition, epistemic verbs will also be used not only to show certainty or uncertainty, but also to show politeness as exemplified in (3) and (4). Uses of this kind are particularly valuable to learn

considering their importance in interpersonal relationships. However, their frequency is unlikely to be high enough to analyse from a quantitative perspective, so the chapter also analyses the data qualitatively, in order to examine both more and less frequent uses at different levels.

In the next section 4.2, the results of the analysis regarding the NICT JLE corpus are presented. Firstly, an overview of the L2 spoken data is given in 4.2.1, followed by the analysis of each of the value categories, from high in 4.2.2, to median in 4.2.3, to low in 4.2.4.

4.2 Results in JLE spoken data

4.2.1 Overview of the results in spoken data

Table 4.3 shows the relative frequency per 100,000 of the epistemic verbs, which is plotted in Figure 4.1. The remaining target items, *suppose*, *appears*, *bet*, *doubt*, and *suspect*, show fewer than 5 occurrences in total and therefore they are eliminated from the list explored in this study.

Table 4.3 Frequency breakdown of target verbs per each proficiency group in the spoken data

<i>Epistemic verbs</i>	<i>Lv4</i>	<i>Lv5</i>	<i>Lv6</i>	<i>Lv7</i>	<i>Lv8</i>	<i>Lv9</i>
I@think	231.2	245.4	340.3	404.7	343.6	495.3
I@believe	1.1	4.2	4.7	4.7	4.8	14.0
I@know	82.5	80.1	131.5	153.8	156.9	194.7
I@mean	4.7	20.1	98.8	110.4	124.8	84.1
I@guess	5.2	12.0	26.3	61.3	51.1	155.8
<i>seem(s)</i>	17.4	32.4	66.1	57.5	44.0	42.1

Note: @ symbol indicates these data include up to two words in between such as *I don't think* or *I just think*

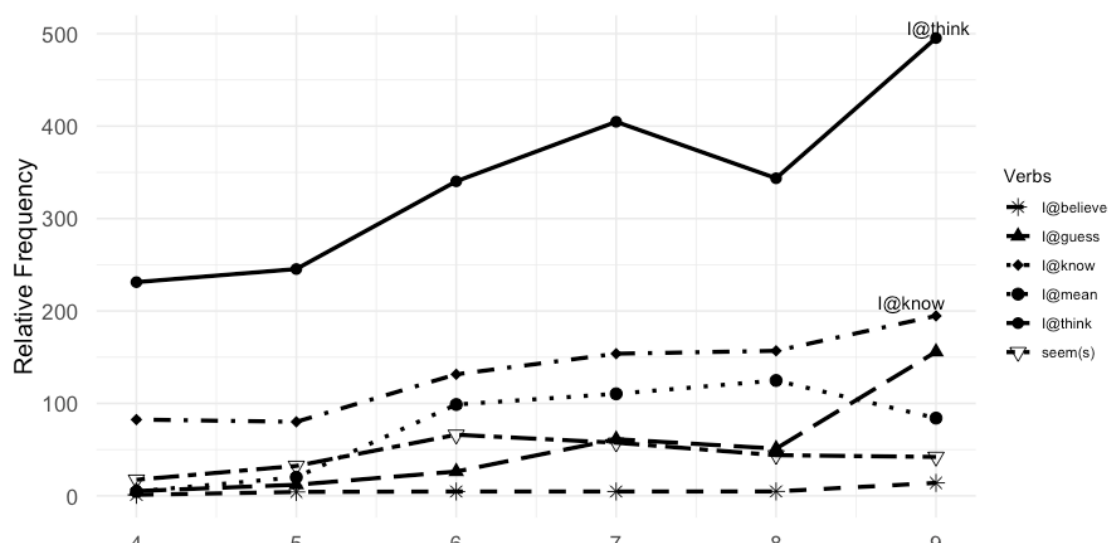


Figure 4.1 Plot from frequency breakdown of target verbs per each proficiency group

As Figure 4.1 shows, *I think* accounts for the majority of uses of epistemic verbs in every proficiency group, which lends support to previous studies (Kärkkäinen, 2003; Zhang & Sabet, 2016). On the other hand, *I believe* is the lowest among all the items excluding those deleted from the list. In between, the second most frequently used expression is *I know* including *I don't know*, followed by *I mean*, *I guess*, and *seems*.

These epistemic verbs convey distinctive degrees of certainty. Figure 4.2 provides the result of categorisation based on the value in SFL. It excludes *seem* and *seems* as they are different from other items in that they seldom occur with the first-person pronoun *I*. The median group dominates, accounting for 70.9% of all use. The high group makes up 4.9% only, and this group consists of *I believe* and *I know*. The low value group accounts for 24.3% of instances. This finding is more informative when compared to the writing data categorised based on the identical criteria. If *seem(s)* is included in the low value group, the result slightly alters to 4.5% of total use, 65.9%, and 29.5% respectively.

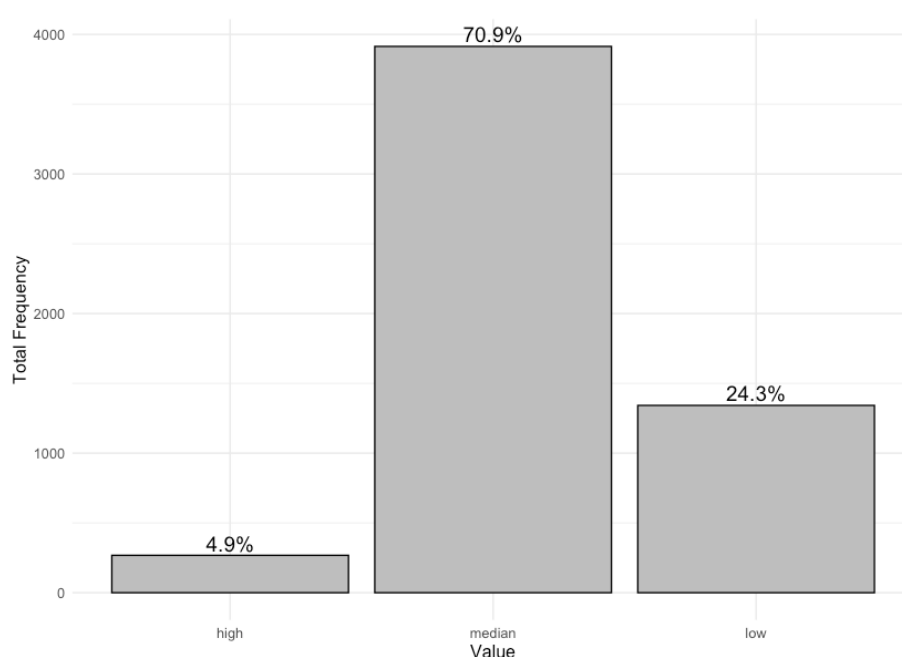


Figure 4.2 Proportions of use of high, median and low value verbs in the spoken data

Individual difference is easily hidden in the data. For example, if some learners use a specific word repeatedly at a higher frequency than average, the total number for their level has a different meaning. Therefore, the mean frequency per JLE and the variance or its standard deviation need to be considered. In Figure 4.3, the solid line shows the mean frequency of the use per JLE across the group and the dashed line is its standard deviation, which demonstrates the variance within the data. The data suggest that, first, when the proficiency level rises, the mean frequency per learner increases, except between Levels 7 to 9, and it becomes almost four times higher from the lowest level of Level 4 to the highest Level 9. Second, the standard deviation is consistent among Levels 6 to 9, and it indicates that while the deviation of frequency among intermediate to advanced level of JLE is stable, advanced level learners increase the frequency of the use of some epistemic verbs such as *I guess*, *I think*, and *I don't know*.

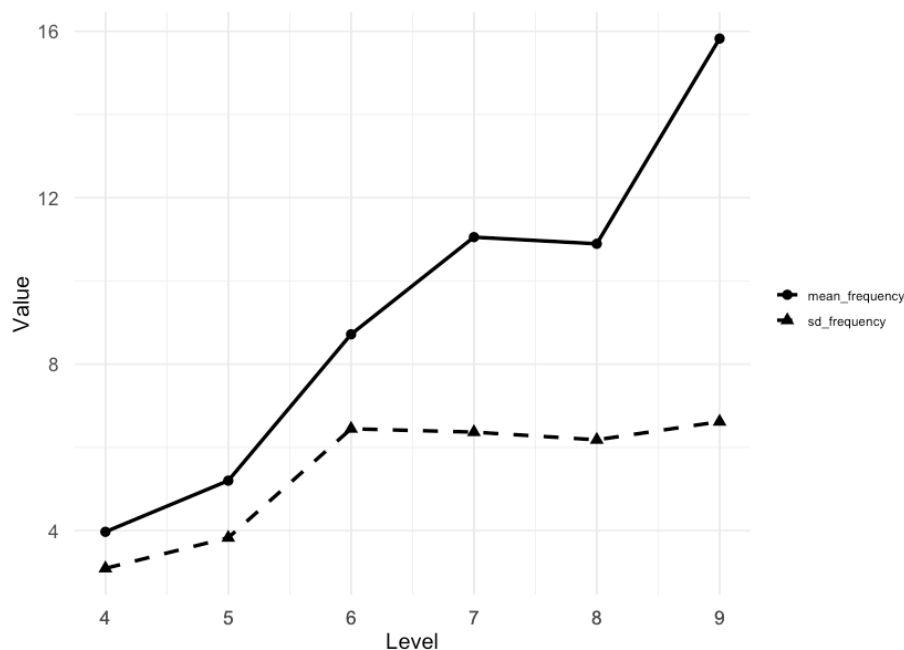


Figure 4.3 Mean frequency and standard deviation of epistemic verbs in the NICT JLE corpus across the Levels 4 to 9

In summary, as can be seen from the initial analysis, high dependency on *I think* causes the dominance that the median value category accounts for 70.9% of total use. In contrast, the category high value, which consists of *I believe* and *I know*, accounts for less than 5% of total use. As a general tendency, JLE in Level 4 use these verbs 4 times per person and this figure rises to 16 on average in Level 9. In the following section, the more detailed analysis proceeds with the group of high value.

4.2.2 High value in spoken data

This category, high value, consists of two expressions, *I believe* and *I know* and they take up 4.9% of the total use of epistemic verbs. As Figure 4.4 shows, the frequency of *I know* follows a similar pattern to the general trend, which simply means it is more frequently used by advanced JLE. In contrast, there is no significant increase in the frequency of *I believe* across the proficiency levels. Due to the categorisation (see Table 4.2), the negation of both expressions is discussed in a later section. In this section, *I believe* is examined first, followed by *I know*.

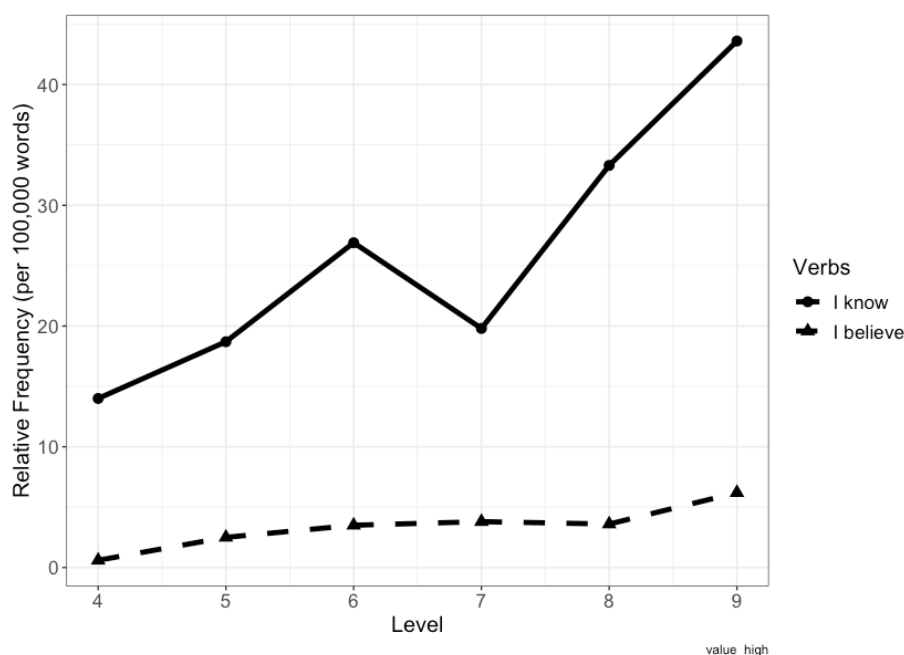


Figure 4.4 Distribution of high value in the SFL

I believe is the least frequently used expression in the list of target epistemic verbs. Table 4.4 demonstrates the breakdown by proficiency level, and this shows that the lower group, especially Level 4, rarely uses *I believe*. The frequency rises gradually to Level 6, but afterwards, there is no marked change except at Level 9.

Table 4.4 *I believe*: relative frequency per 100,000 words across the proficiency group

Expression	Value	Lv4	Lv5	Lv6	Lv7	Lv8	Lv9
<i>I believe</i>	High	0.6	2.5	3.5	3.8	3.6	6.2
<i>I don't believe</i>	Low	0.4	1.8	1.2	0.9	1.2	7.8

Hyland (1994) describes *I believe* as a twin form of *I think*; however, according to the definition of *believe*, *I believe* shows stronger commitment than *I think*. In the *Oxford English Dictionary* (hereafter *OED*), *believe* is defined as below:

1. To have confidence or faith in, and consequently to rely on or trust to, a person or (*Theology*) a god or the name of a god.
2. To have confidence in the truth or accuracy of (a statement, doctrine, etc.). In later use also: to have confidence in the genuineness, virtue, value, or efficacy of (a principle, institution, practice, etc.)

In (5) and (6), the speaker discusses their faith. Here the meaning of *believe* is closer to the first definition by *OED*.

- (5) ..., but my father always tells me that the Koshihikari rice is the best one in Japan, and *I believe in* in him so. (file00902_7_1)
- (6) So, *I believe in* that religious faith. So I don't I don't want to eat meat. (file00654_7_6)

These examples are all counted as epistemic form in this study as, arguably, they are all related to the certainty of a speakers' belief. A first possible reason that *I believe* is not frequently chosen by JLE is that such a strong commitment is not required through the topic of this language assessment. However, in some cases, JLE shows relatively strong opinion or beliefs using *I believe* and each of the following examples show the commitment of the speaker. In (7), the speaker describes the belief that in professional settings, it is vital for them to have an active discussion among colleagues to make better products. In (8), in the sentence preceding *I believe*, the speaker shows certainty, stating *that's obvious*.

- (7) ... it take a quite err long times to get the consensus, but *I believe* this is necessary to to get very competitive, yeah, product mix. (file00843_7_1¹³)
 (8) Yeah. That's obvious. And *I believe* my friends understand. (file00984_8_7)

In other cases, the speaker is struggling to decide between verbs. In (4) above, it appears that the speaker consciously chooses *I believe* rather than *I guess* after initially selecting *I mean*, indicating the speaker understands the different degree of certainty or uncertainty between these words. In addition, the speaker seems to judge that both *I believe* and *I think* have a similar degree of certainty. On the other hand, in (9), the speaker rephrases using *I believe* after *I think*, which seems to indicate that the speaker thinks *I believe* is more suitable for a stronger assertion. In (10), *I believe* is inserted in the middle of the sentence.

- (9) That that was *I think I believe* that was accident. (file00788_6_1)
 (10) [...] because of the blackboard says something er higher level of, er *I believe*, mathematics. (file00273_7_2)

Where it involves negation, *I believe* tends to be used with a variety of secondary verbs such as *can't* (eight cases), *don't* (five cases), *couldn't* (two cases), *wouldn't* (one case). For the purpose of consistency with other criteria, *couldn't* is not included in the data provided in Table 4.3 or 4.4, as the list only contains forms in the present tense. The example used with *can't* sounds critical about someone or something the speaker cannot support such as in (11) and (12). In (13), the speaker is discussing their thoughts about an imaginary fortune teller and suggests a sceptical attitude towards the fortune telling.

- (11) Especially especially, err *I can't believe* that err this this guy is making balloon by gum. (file00542_5_6)
 (12) [...] it's really, uhh *I don't know*, like terrifying because like *I just can't believe* that a mother would treat like her own child that badly. (file01248_9_6)
 (13) [...] or er for my character, mm maybe *I wouldn't believe* it. (file00380_7_8)

Table 4.5 *I know*: relative frequency per 100,000 words across the proficiency group

Expression	Value	Lv4	Lv5	Lv6	Lv7	Lv8	Lv9
<i>I know</i>	High	14.0	18.7	26.9	19.8	33.3	43.6
<i>I don't know</i>	Low	68.8	61.4	105.8	133.9	126.0	151.1

¹³ file0000 represents the document identification applied to each JLE. The second number indicates the level of JLE, which can be one of the Levels 4 to 9. The last number denotes the stage of the language test.

Table 4.5 above provides the results for *I know* and it shows that both positive and negative forms are used frequently at each level. For reference purposes, Table 4.5 contains *I don't know*. However, this expression is examined in the later section as it is categorised in low value. Therefore, the focus of this section is on the affirmative expression *I know*.

The scatter plot in Figure 4.5 shows the variance of the use of *I know* across the proficiency groups. Since most of the frequency is the range of zero to four, jitter function of ggplot2 is used so that the graph avoids the overlapping of the same number in the same level group. The dotted line represents the regression line, and its increasing slope indicates a positive correlation between proficiency level and frequency.

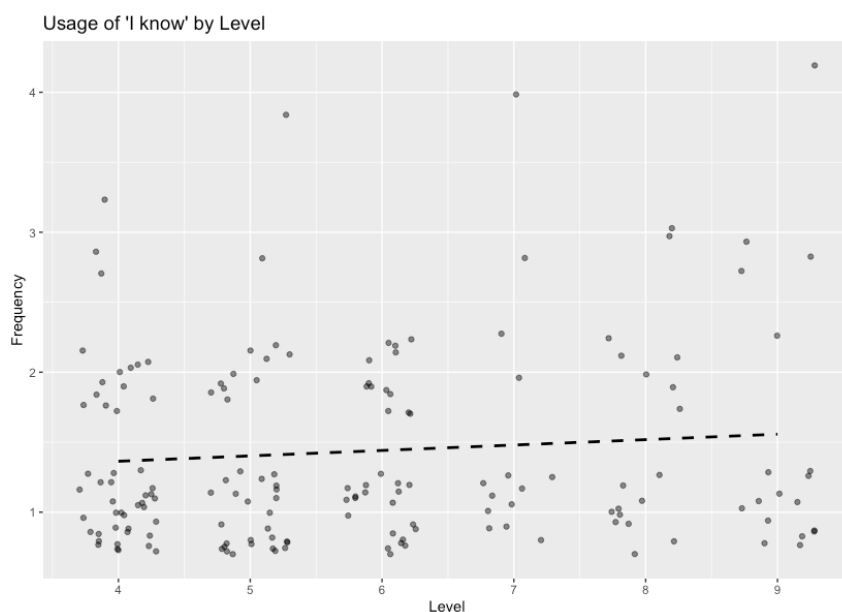


Figure 4.5 Distribution of raw frequency of *I know* across JLE groups

According to Biber et al. (1999), *I know* is one of the most frequently used epistemic verbs in conversation e.g., *I know I can get off the bus* (p. 973). The verb *know* is defined by *OED* as:

1. To perceive (a thing or person) as identical with one already perceived or considered; to recognize; to identify.
2. To recognize or distinguish, or be able to distinguish (one thing or person) from (also †fro) (another)

Therefore, it is used to convey that the speaker knows something and it indicates strong certainty on the part of the speaker, as shown in example (14).

(14) I have gone there a much time. That is why *I know* it very much. (file01035_4_7)

However, *I know* is used not only to make an epistemic claim, but it can be used to manage a social relationship. Mikesell et al. (2017) investigate the function of responding with *I know*. The results show that it is used to resist the initiating action as unnecessary, i.e. in order to show that the speaker knows something while claiming to accept its grounds, and it is used to respond to both positive and negative assessments. For example, in (15), speaker B, a JLE, responds with *I know* to A, the interviewer. It is used to reject the information A provides while claiming to accept its grounds. Speaker B understands the company that A works for in the imaginary situation has a company policy which does not allow B to have a refund.

Nevertheless, he continues to negotiate subsequently, following *I know* with *But I really [...]*. This shows an important social skill in negotiating when the opponent has rights of decision.

- (15) <A>Ah I'm really sorry but I can't do that. And you said it's against our policy.
I know. But I really didn't know that¹⁴. (file01220_9_3)

In (16), speaker B's reply with *I know* functions as a responding action against a negative assessment. The speaker A complains that B cannot attend a birthday party which A has prepared for him or her. This *I know* shows that the speaker B made a judgement independently from the other speaker and therefore it shows they are on the same page (Mikesell et al., 2017). In other words, this means that *I know* is used to show understanding of the interlocutor's thoughts, situation, and policy et cetera. Mastering this kind of use is another important language skill to help build a relationship.

- (16)
I'm really wanted to go to your party. But I can't. Urr. I'm so sorry.
<A>Yeah. You know, everybody is waiting for you. And, since this is your this was your birthday party, so I made a big cake for you.
I know. That's why I'm really sorry. And, urr if possible, give me a raincheck. I really want to have next time uh a party. (file00364_5_3)

After the response with *I know*, the speaker attempts to show how sorry they are by using expressions such as *if possible, give me a rain check*. Other expressions are used in this way in other examples, including *I wish I was there* in (17), and (18) shows a speaker in a similar situation making a request again.

- (17)
<A>We are all waiting for you, "B's name".
Yeah, *I know*. I'm sorry. But the situation is out of my control
<A>Uh-huh.
and <F>um</F> I'm very sorry to miss it. I really want to go, but I can't. I'm sorry.
[...]
<A>we are all waiting for you and um prepared so many nice foods, drinks and appetizers.
I know. I wish I was there. But. (file01227_8_3)
- (18)
Yeah, *I know*. I'm really sorry. <F>Um</F>. It's really my fault really.
<F>Um</F>. It's really my fault, and <F>um</F> I have nothing to say about that. *I mean* it's really my fault. <F>Urm</F>. But <F>um</F> could you just bend the rules a little bit this time once? > (file00666_9_3).

In responses, a reply with *I know* is found in 37 instances out of a total of 232 cases, or 15.9%. In addition, 83.8% of these responses occurs in the role-playing task. In this task, learners are required to respond to the situation facing trouble, e.g., asking for a refund after

¹⁴ The past form such as *didn't know* or *knew* is not counted in quantitative results. This is the identical with other verbs.

being refused, or apologising for something which is their fault. Similarly to the examples thus far, *I know* is used to manage social relationships when it has a noun clause as well. (19) and (20) are the examples of this:

- (19) And ur I will apologize from my side as well. So yeah, *I know* that the party was really important, and I was looking forward to it. (file01101_8_3)
 (20) Hmm *I know* it is difficult for you to be accepting my offer, but I do want [...] (file00353_5_3)

Additionally, phrasal repetitions are observed four times, accounting for 2% all the use of *I know*. This type of repetition is commonly seen in Japanese conversations, especially with terms like *wakaru*, which can be aptly translated as *I know*. Frequently, it is repeated as *wakaru, wakaru*, equivalent to *I know, I know* as exemplified in (21) to (23), to express understanding or sympathy towards the listener (Suzuki et al., 2023)¹⁵. Therefore, it seems likely that these examples show the influence of the speakers' L1.

- (21)
 <A>What's the best way to find a restaurant that's sort of suits your taste?
 laughter
 <A>*I don't mean* literally taste.
 I know, I know. (file01279_9_6)
- (22)
 <A>Uhu. O K. Well, it's our it's against our policy to give you back the money or anything like that.
 Er. *I know, I know.* (file00708_5_3)
- (23)
 <A>I'm very sorry, sir, but everybody is equally in a hurry in the morning.
 Yeah. *I know, I know.* But, urr where should I go? Ur, I don't *I don't think* you are a right person to talk with me. (file00397_8_3)

This usage is prevalent across the proficiency levels, allowing speakers to show resistance while accepting the ground in part or showing they are on the same page in facing complaints, or showing sympathy by repeated use. All of these involve important language skills to manage social relationships. They are also involve transferable skill from the speakers' L1 language. These are possible reasons *I know* is so frequently used by JLE. However, further investigation of how these interactions are realised in written mode, and of how JLE compare with native speakers of English, are presented in 4.4.

4.2.3 Median value in spoken data

In this section, the median value verbs *I think*, and *I mean*, are examined. These two expressions account for 70.9% of the use of the target epistemic stance markers by JLE. Figure 4.6 shows the frequency of the use across the proficiency levels. It shows *I think* is used by all the levels with high frequency, yet Level 9 groups use it the most frequently. The results are not exactly in line with the previous research, which shows heavy reliance on *I think* by lower proficiency level learners. Also, *I mean* is not used in the lower level groups,

¹⁵ The scholar shares an identical full name with the author of this thesis; however, they are not the same individual.

but the data shows a drastic increase in use of this verb at the intermediate level group, Level 6, nearly 100 per 100,000 words. Its use reaches a peak at Level 8 and drops in Level 9.

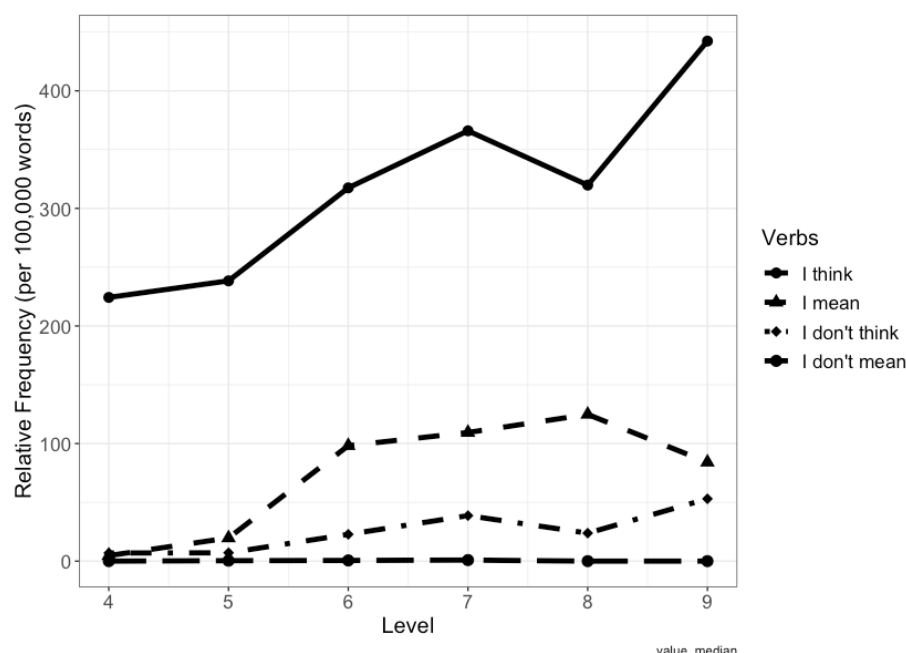


Figure 4.6 Distribution of median value in the SFL

First, *I think* is examined here. As discussed in regard to *kind of* and *sort of* in the previous chapter, a single lexical item can be used in both epistemic and non-epistemic ways, depending on the context. Although delimiting the examples of epistemic modality is not an easy task, it is vital to eliminate the irrelevant ones, especially as *I think* is by far the most frequently used phrase among the data. In the end, a total of 50 examples, or 1.2%, are eliminated from the data. To be specific, the following cases in (24) to (27) show typical patterns which have been excluded, which describe the cognitive act. These results are provided in Table 4.6.

- (24) Can *I think* for a while? (file00669_5_2)
 (25) And yeah and yeah, that's I what *I think* when I buy skirt. (file01208_7_7)
 (26) Every day, *I I think* of the the business every time. (file00847_4_7)
 (27) So *I think* about their preference. (file01027_5_8)

Table 4.6 *I think*: relative frequency per 100,000 words across the proficiency group

Expression	Value	Lv4	Lv5	Lv6	Lv7	Lv8	Lv9
<i>I think</i>	Median	224.3	238.4	317.5	366.0	318.6	442.3
<i>I don't think</i>	Median	6.9	7.1	22.8	38.7	23.8	53.0

Figure 4.7 shows a scatter plot of frequency by JLE. As the regression line indicates, there is a weak correlation between the proficiency level group and the increase of frequency of *I think*. It should be noted that there is an outlier in the level 7 group, and it is important to take account of this level of individual difference. The presence of this individual may be one reason why the figure for Level 7 is higher than Level 8. Among other epistemic stance

verbs, *I think* is the most frequently used phrase in line with an epistemic adverb, *maybe*. The heavy reliance on this set phrase *I think* is not a distinctive feature by JLE. The literature suggests lower proficiency learners tend to rely heavily on this phrase regardless of their first language.

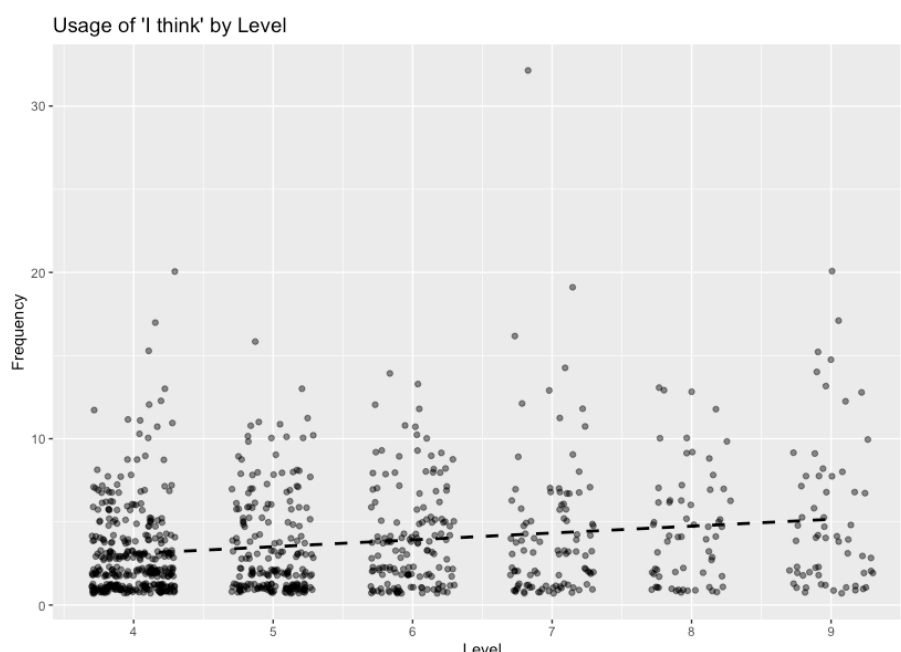


Figure 4.7 Distribution of raw frequency of *I think* across JLE groups

Characteristic of the use of this term is its high frequency of use by low proficiency learners. It may be that the cognitive load for use is low because the meaning is relatively simple and they are exposed to the expression frequently in textbooks. However, this high frequency is partly due to repeated use during hesitation by these levels of learners as in (28) and (29). Many peripheral words in the utterance indicate that this shows hesitation rather than emphasis, e.g., fillers such as *err* or rather redundant conjunctions such as *and...and...* or self-repair such as *fireworks uh fire*.

(28) ... and we ate dinner *I think I think* I drank a little too much and
err...(file00161_4_6)

(29) *I think I think* this movie is ur this movie was mm. (file00610_4_4)

The phrase *I think* is flexible in its position in a clause, occurring initially, medially, or at the end. The difference of these positions indicates forward or backward scope. The forward scope of an expression is defined as “that which extends over something yet to be verbalised in the current turn”; backward scope is defined as “that which was just verbalised in the immediately preceding turn-so-far” (Kaltenböck, 2010, p. 203). Previous studies distinguish these positional differences, and the current study follows suit because it is important criteria to discern if L2 learners have pragmalinguistic knowledge.

The definition of initial position is use at the beginning of the clause, allowing for preceding adverbials such as *recently*, discourse markers such as *well*, connectives such as *but*, subordinators such as *although*, and vocatives such as *John*. Medial position is in the middle of a clause. For instance, “[t]he party is going to be, *I think*, at Mary’s place”. Finally, clause-final position is the one used at the end of a clause, adding an afterthought e.g., “[t]he party is going to be at Mary’s place, *I think*” (Zhang & Sabet, 2016, p. 340) Lower-level learners show relatively high frequency of the end use of *I think*, as in (30). It is characteristic

of lower proficiency in spoken contexts as higher-proficiency learners use more initial position. In its written form, lower-level groups tend to use it more frequently in initial position. End position could help learners' cognitive load because they can add it later or it is closer to their L1 grammar: in the Japanese language, verbs lie in the end position.

(30) It is very good area, *I think*. (file00420_4_6)

Finally, cases of *I think* in combination with other words are examined. In (31), the speaker emphasises his/her point by using the adverb *definitely*. This usage is assertive rather than showing softening of the assertion. In (32), the speaker emphasises the remark with adverb *really* but attempts to mitigate the assertion after that clause, which sounds negative, by using *would*.

(31) So *I definitely think* private shops are superior than those department stores.
(file01266_8_7)

(32) *I would really think* that that policy is not a very good one because ah many people do make (file01188_9_3)

To turn now to usage of another median stance marker, *I mean*, is analysed, with the results displayed in Table 4.7. The data reveals that *I mean* is predominantly used with affirmative forms, with the negated form rarely appearing in the dataset. Notably, learners at intermediate levels, such as Level 6 and above, use *I mean* significantly more frequently than those in lower proficiency groups. Figure 4.8 details the usage across different proficiency levels, highlighting that an outlier is present at Level 6. Despite this, there is a noticeable increase in the frequency of usage around the intermediate proficiency levels.

Table 4.7 *I mean*: relative frequency per 100,000 words across the proficiency group

<i>Expression</i>	<i>Value</i>	<i>Lv4</i>	<i>Lv5</i>	<i>Lv6</i>	<i>Lv7</i>	<i>Lv8</i>	<i>Lv9</i>
<i>I mean</i>	Median	4.7	19.7	98.2	109.4	124.8	84.1
<i>I don't mean</i>	Median	0.0	0.4	0.6	0.9	0.0	0.0

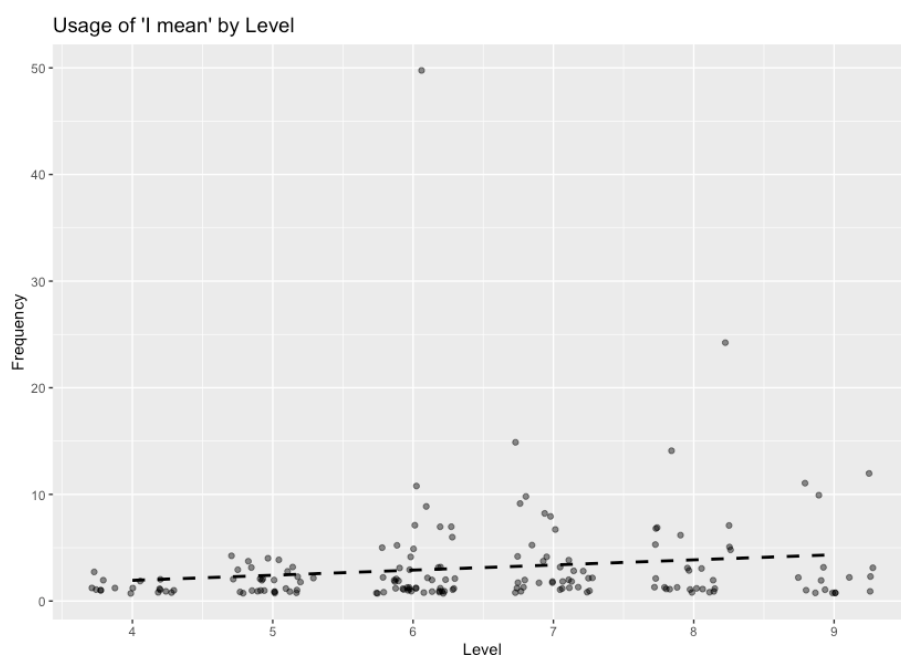


Figure 4.8 Distribution of raw frequency of *I mean* across JLE groups

Semantically, stance markers play a different role depending on context. According to Beeching (2016), the functions of *I mean* can be divided into two categories: non-pragmatic or canonical usage, and pragmatic usage (p. 183). In non-pragmatic use, the basic meaning is to signify the intention of the speaker or writer, as shown in the following example. In the conversation, B signifies their intention.

A: do you mean meaningful?

B: no *I mean* meaningless (Beeching, 2016, p. 184)

This usage is limited in frequency both in Beeching's research and in the current study. The primary use is the pragmatic one. The nature of stance markers that shows speakers' uncertainty causes less clear usage semantically, and *I mean* used pragmatically can be classified into different categories. Therefore, to further investigate the use of JLE, the following framework is applied to the current data of *I mean* (Beeching, 2016); this framework is not applied to other target verbs. In the framework, the pragmatic uses of *I mean* are defined as shown in Table 4.8.

Table 4.8 Functions of *I mean*

Pragmatic use	Description
Self-repair	Self-repair where S1 (sequence 1) is followed by a corrected version of it in S2 (sequence 2) which is introduced by <i>I mean</i> .
Hesitation	Used along with other pause-fillers such as um... without any apparent self-repair. No link between the first sequence and the following sequence in a conversation.
Clarification	S2 clarifies, exemplifies, elaborates or reformulates S1.
Justification	The speaker provides reason in S2 for the stance conveyed in S1 via <i>I mean</i> .

Concession and nuancing	Used to introduce a concession e.g., “. . . <i>I mean</i> . . . but”
Hedging	Used to soften the strength of an evaluative comment e.g., “but <i>I mean</i> ”

In the first part of statement (33), the speaker does not specify why she thinks her school was good. The phrase *I mean* is then used to introduce and clarify her reasoning, which is that not many people were sleeping during classes.

(33) *I think* my school was a good school. *I mean* not so many people are sleeping.
(file01190_7_6)

In the next example (34), the speaker, learner B is undertaking a task, which asks for a request to a landlord to repair a broken window. Interviewer A, and the speaker both use *I mean* repeatedly. The first two examples of *I mean* signify the assertion after that clause. After the reply by A, *I mean* is used three more times by B. The initial instance is used along with *I don't know* and *maybe*, which seems to be used to search for an appropriate expression. The second and third uses are used to clarify the assertion that *it's dangerous*.

(34)
Yeah, I understand that. But *I mean* that it's cold, and the window is broken and, *I mean*, er what I'm going to do it with it? if.
<A>Yeah. *I know*. I have some emergency matters I have to take care right now.
Well. This is emergency, too, you know. *I mean*, *I don't know* maybe some broke in or something. But, *I mean*, eh it's it's dangerous, too, if the wi window is broken. *I mean* someone can come in easily, too. I live here alone.
(file00319_9_3)

In most of the cases *I mean* takes initial position, but 17 cases it takes end position. In (35), the speaker elaborates on the previous sequence by using *I mean* to explain the reason why they feel cold there, which is because they live in an area with a hot climate. Similarly, the speaker explains the reason to live in Germany in (36). In (37), the speaker attempts to clarify that *different schools* means *other schools*.

(35) So I feel so cold here. Ah I I live in XXX03. *I mean*. (file01215_8_1)
(36) [...], I've been to Germany and I got to know my husband before then, *I mean*.
(file01203_9_1)
(37) [...], not er er that is not be learned at different schools other schools, *I mean*.
(file01272_9_7)

The negation of *I mean* is used to convey a type of modification. *I mean* mainly clarifies the previous sequence exemplified in (38) to (40). It therefore meets the needs of learners who want to elaborate their utterance without fluent language skills.

(38) So uum so I don't I don't uum *I don't mean* I want you to err give give money back to me. (file00542_5_3)
(39) *I I don't mean* that to to drink so much. Well some, occasionally, *I mean*.
(file00990_6_7)
(40) Uum *I don't mean* I won't go, I don't want to go but I I have some trouble
(file01173_7_3)

4.2.4 Low value in spoken data

The low value category accounts for approximately 25% of all the usage of epistemic verbs by JLE. The highest frequency in this category is shown by *I don't know*, which is plotted in the solid line in Figure 4.9. It is already used frequently in the lowest level, and its frequency doubles at Level 9. The dash line shows the usage of *I guess*. It shows a unique trajectory. This phrase is rarely used by Level 4 JLE but drastically increases as the proficiency level rises, and it reaches 30 times frequency at Level 9. In this section, *I guess* is explored first, followed by *I don't know*, the negation of *I believe*, and finally *seem*.

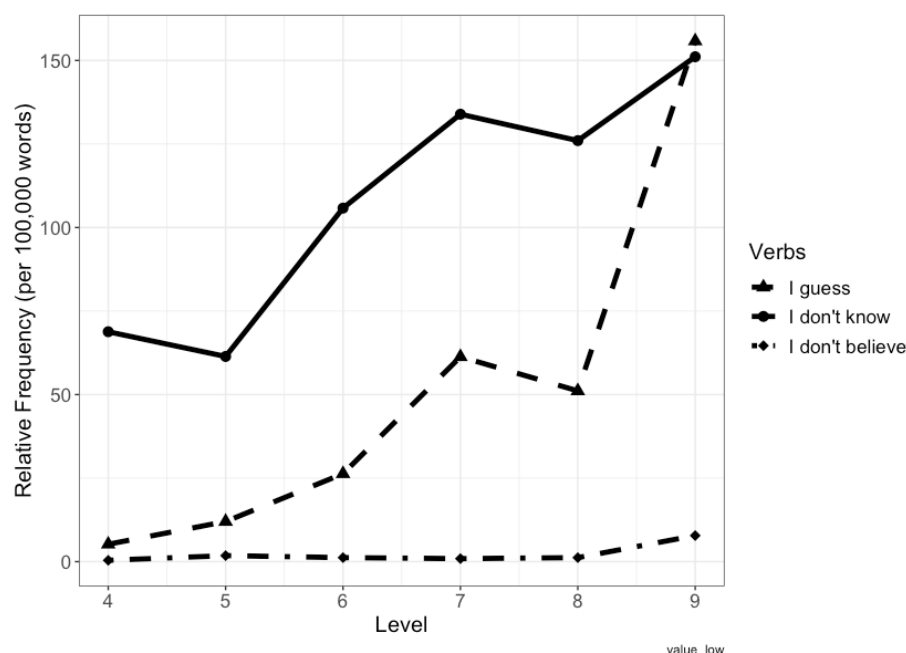


Figure 4.9 Distribution of low value in the SFL

The cognition verb *guess* is used to “form an approximate judgement of (size, amount, number, distance, etc.) without actual measurement or calculation; to estimate.” (OED). Biber et al. (1999) mention that *guess* is very common with a *that*-clause in American English conversation and fiction (p. 670). The current data set presents high frequency by JLE in Table 4.9 and it is visualised in Figure 4.10 below.

Table 4.9 *I guess*: relative frequency per 100,000 words across the proficiency group

Expression	Value	Lv4	Lv5	Lv6	Lv7	Lv8	Lv9
<i>I guess</i>	Low	5.74	11.59	24.93	59.77	39.23	93.40

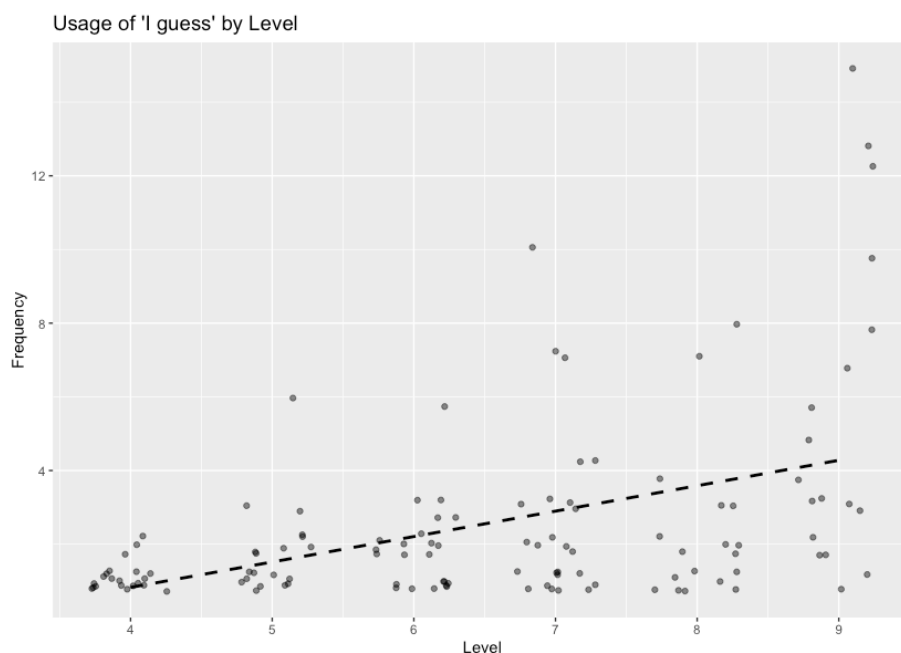


Figure 4.10 Distribution of raw frequency of *I guess* across JLE groups

Previous studies commonly regard *I guess* as a conventionalised, sedimented pragmatic expression, used as a stance marker. Syntactically, it precedes complement clauses in English. Thompson and Mulac (1991) claim that *I think* and *I guess* have grammaticalized into epistemic phrases that act as adverbs and behave much like epistemic morphemes in other languages.

I guess follows the general pattern starting from low frequency in Level 4 and increasing as the level rises, except at Level 8. The exact reason for the decrease in Level 8 is not clear, but it is possible that the dispersion is biased due to the limited amount of sample data. Although the number of instances is limited to a total of four, examples as in (41) to (44) show the learner's understanding of the difference from another marker, *I think*, which is classified as a higher value marker.

(41) So it means em powder snow *I think, I guess*. (file00296_4_2)

(42) [...] she has many clothes, *I think I guess*. (file01082_5_2)

(43) [...] maybe he had reser reserved in special restaurant, *I think I guess*.
(file00108_5_4)

(44) [...] buses urrm get the power from the water electric electici electricy, maybe *I think I guess*. (file00360_5_8)

As the definition of *OED* shows, a verb, *guess*, is used to give a weaker opinion than *think* as an estimate. At the same time, usage like these could be evidence of grammaticalized use of *I guess* because the speaker could simply add *guess* after *think* (e.g., *I think and guess*), if they were focusing on the semantic difference between the verbs. Additionally, for JLE, there seems to be some hesitation about the most appropriate word choice to convey a degree of certainty. This hesitation can be seen in the self-correction of *I think* to *I guess* in the above examples (41) to (44). It is noticeable that lower proficiency groups, Levels 4 and 5, show this pattern.

I guess is found in end position in 78 out of 306 cases, including (41) to (44), accounting for 25.5% of the examples. This is higher than the occurrence of *I think*, which stands at 16.6%. One possible reason is that *I think* might be more familiar to JLE, making it easier for them to begin a statement with the phrase. *I guess* may be easier for JLE to insert

after expressing a thought, as they might come up with the phrase in the middle of conversations. Such an example can be seen in the middle position, as in (45).

(45) She, maybe, *I guess*, she works she works there and as a volun as a nursing nursing handicapped. (file00265_5_1)

In addition, use in end position might be influenced by the Japanese word *omou*, which encompasses both *think* and *guess* in English. When *omou* is used in a context closer to *guess* and given that *omou* usually appears in the end position in Japanese, speakers might mirror this pattern with *guess* in English conversations.

In (46), the speaker hesitates between *I think* and *I guess*, ultimately choosing *I think*. This indecision illustrates the difficulty lower-level learners face in selecting the appropriate degree of certainty or uncertainty.

(46) [...] but ah um um I have *I think I guess I think* I have no time ah to to ah to make decisions [...] (file01082_5_6)

As proficiency increases, examples indicate more sophisticated uses of epistemic stance, similar to other linguistic patterns. For instance, in example (47), the use of *maybe* and *I guess* together with *I mean* shows a complex layering of hedging.

(47) And, maybe, *I guess* that the policeman judged, the the guy *I mean*, the young guy was [...] (file00838_8_4)

The negation, *I don't know*, is a marker of the speaker or writer's "insufficient knowledge about the topic of the discourse" (Baumgarten & House, 2010, p. 1194). In this sense, this is used to declare an inability to supply information. The breakdown by proficiency levels is provided in Table 4.10.

Table 4.10 *I don't know*: relative frequency per 100,000 words across the proficiency group

Expression	Value	Lv4	Lv5	Lv6	Lv7	Lv8	Lv9
<i>I don't know</i>	Low	68.8	61.4	105.8	133.9	126.0	151.1

Figure 4.11 illustrates the consistent increase in frequency as proficiency levels rise.

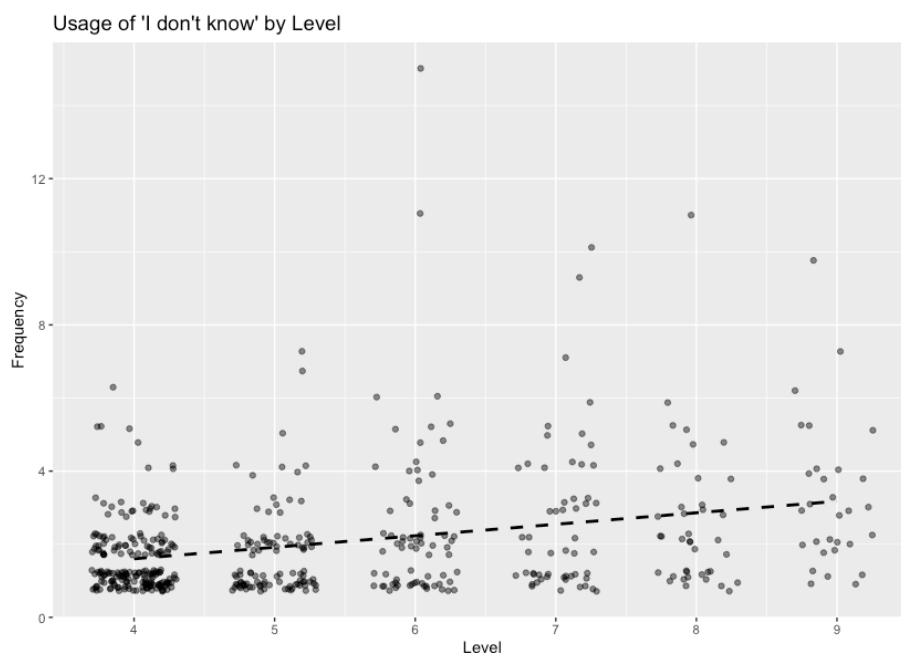


Figure 4.11 Distribution of raw frequency of *I don't know* across JLE groups

I don't know is a form of reply to an information-seeking question when the speaker has insufficient information or knowledge, as in (48).

- (48) So she said it's very easy to cook. But *I don't know* how to cook it.
(file00508_6_8)

In particular, while taking a foreign language test, JLE use quite frequently express insufficient knowledge regarding vocabulary with *I don't know* such as in (49). Additionally, using *I don't know* provides them with the time to find the words to express themselves even though they are not sure about the appropriateness of the term.

- (49) I like hamsters. *I don't know* hamster in English, but small hamster so yeah, I like just hamster. (file00343_7_8)

However, in many cases, the speaker actively uses *I don't know* to convey more pragmatic functions. Holmes (1988) describes affective functions, where language is used to convey feelings and reflect social relationships, and notes that “expressions used in English to express the extent of the speaker’s certainty about a proposition may also function as politeness signals” (p. 22). For instance, in (50), the speaker appears to attempt not to impose her opinion to the hearer.

- (50) And er, you know, everybody has his or her own taste. So *I don't know* if my taste, is like very good for you or not. (file00640_7_1)

Similarly, in (51), the speaker hedges her opinion using *I don't know* as she feels it is self-centred to want to be with a pet while at home.

- (51) And *I don't know* it's just like it's self-centered, but I want a pet to be when I'm there. I want a pet to be with me. (file01257_9_8)

Baumgarten and House (2010) report that a reliance on the *I don't know* by L2 speakers to express their lack of knowledge or uncertainty, where L1 speaker use it more as a pragmatic routine in a conversation. More specifically, native speakers often use *I don't know* as a politeness device while the learners use it most to express hesitation and uncertainty. Instances of learners' use are seen below, such as *I don't know. Just I guess* in (52), *I don't know. But I guess* in (53), or *I mean* in (54). In the test setting, it could reflect the psychology of test takers that they don't want to demonstrate insufficient knowledge.

- (52) And I crashed a wall, *I don't know. Just I guess* the road was fro froz icy.
(file00151_6_8)
- (53) Er, *I don't know. But I guess* it's because um most of people live in a city.
(file00186_6_8)
- (54) This is emergency, too, you know. *I mean, I don't know* maybe some broke in or something. But, *I mean*, eh it's it's (file00319_9_3)

Example (55) provides another example of a pragmatic function.

- (55)
- <A>[...] Why do you think urm er shops in Japan often refuse to refund?
- Ah. *I don't know*. I'm not sure, but *I think* it's because urm if you refund, urm most of the time, it's like ripped or it's damaged and some kinds. So ur they don't they don't want the damaged stuff back.
- <A>Mm.
- And *I think* it's the ur consumer's responsibility.
- <A>Mm-hm.
- So but *I don't know* why Americans will let buyers refund.
- <A>Right.
- *I don't know*. (file01241_7_7)

The speaker B answers *I don't know* although A asks *why do you think* not *do you know*. It shows the hesitation of B, who only gives his opinion after several concessive expressions such as *I'm not sure, but* after the negation, and uses *I think* in addition to *I don't know*. This hesitation illustrates lower commitment to the proposition. The final remark in this conversation seems to be part of turn-taking, which in this case is a signal to end B's turn. It is a floor yielding device (Östman, 1981) or is used to seek closure (Beach & Metzger, 2006).

I don't know is used to demonstrate the speakers' insufficient knowledge about their proposition. However, beyond just a reply, it is used to make their statements tentative, and also serves to signal the end of their turn. However, Baumgarten and House (2010) suggest that native speakers use it pragmatically more frequently than L2 learners (whose L1 are Chinese and German). This important point is examined in the section 4.4.

According to Biber et al. (1999), *seem* is the most common of the current copular verbs. *Seem* is particularly common in fiction, combining with adjectival complements to mark personal attitudes. In Figure 4.1 in the earlier section, all occurrences of *seem* are included. However, *seem* and *seems* are separated in this section, as the former is used with subject proper nouns and the latter in many cases is used with *it*. SFL classifies its orientation as explicitly subjective, distinguished from explicitly objective use. The distinction between these categories is significant because the explicitly objective requires a greater cognitive load for the learners, and therefore it indicates their development.

Table 4.11 *Seem*: relative frequency per 100,000 words across the proficiency group

Expression	Value	Lv4	Lv5	Lv6	Lv7	Lv8	Lv9
<i>seem</i>	Low	2.98	6.67	8.12	10.27	11.21	5.60

Table 4.12 *Seems*: relative frequency per 100,000 words across the proficiency group

Expression	Value	Lv4	Lv5	Lv6	Lv7	Lv8	Lv9
<i>seems</i>	Low	14.26	25.64	57.40	46.70	23.35	19.61

In the study by Biber et al. (1999, p. 732), over 98% of all extraposed *that*-clauses following *seem* have a prepositional phrase intervening between *seem* and the *that*-clause, e.g., *it seemed [to him¹⁶] that his home life was disintegrating all at once*. With subject-to-subject raising, the *to*-infinitive clause occurs immediately after the verb *seem* e.g., *Andy really surprises me <...>, Andy seems to know everything*. These tendencies are not seen for the lower-level group in the current study. Lower groups such as Level 4 do not use extraposed *that*-clause and instead, they prefer to use more fixed forms such as *seem like* in (56), *seem to do* in (57), or *it seems* and an adjective in (58).

(56) So the urrr students urrr urrr is umm *seems like* urr boring. (file00242_4_2)

(57) [...], and he *seems to be* happy. (file00100_4_4)

(58) It's very it *seems* very interesting. (file00266_4_7)

In (58), the speaker is talking about the book and hopes to see its movie. Therefore, the speaker is probably correcting the utterance with *it seems* after starting with *it's*. This attempt shows the awareness of A2 level learners about epistemic modality.

Extraposed *that*-clauses, i.e. *it seems that*, are used more with higher level groups. This is presumably not only to do with their skill in forming complex syntax but also relates to their awareness of the objectiveness of the extraposed clause. This type of clause serves as a marker to show an appropriate level of certainty or could also be used because of the speaker's awareness of politeness (Brown & Levinson, 1987). Speakers in the data show the two patterns of negation: in (59), *seems* precedes *not* and in (60) following *not*.

(59) But teacher does *seems not* ee *doesn't seem* to care about all of them.
(file00810_6_2)

(60) And er this teacher is teaching but most of the students *seem to be* er *seem not* very concentrated. (file01227_8_2)

In (61), the speaker presumably cancels *seem* because *it's really* sounds more convincing as the explanation. Likewise, another speaker in (62) uses *totally*, which is an adverb to magnify and the effect is slightly contradictory alongside *seems*.

(61) I really wish to go the party but er it *seems* it's er it's really difficult.
(file01236_8_3)

¹⁶ *Appear* tends to mark the source of information by the form of from NP rather than the person who has the perception of likelihood. E.g., *It appears [from initial observations] that storage of viable sperm is limited to a period of two or three months*. Biber, D., Johansson, S., Leech, G., Conrad, S., & Finegan, E. (1999). *Longman grammar of spoken and written English*. Pearson Education Limited.

(62) And other other students also talking and drinking and it uhm they *seems totally* they *seems* rude for her. (file00939_5_2)

What the speaker means is most likely that they look extremely rude to her, but this is till mitigated by *seems*. The combination with other epistemic stance markers can also be seen frequently. For example, speakers use *I think* in (63) and *I guess* in (64).

(63) But *I think* it *seems* a little bit yeah, the weekend, will be erm will be um um (file01175_7_1)

(64) It *seems* very hot day, *I guess*. (file00620_6_2)

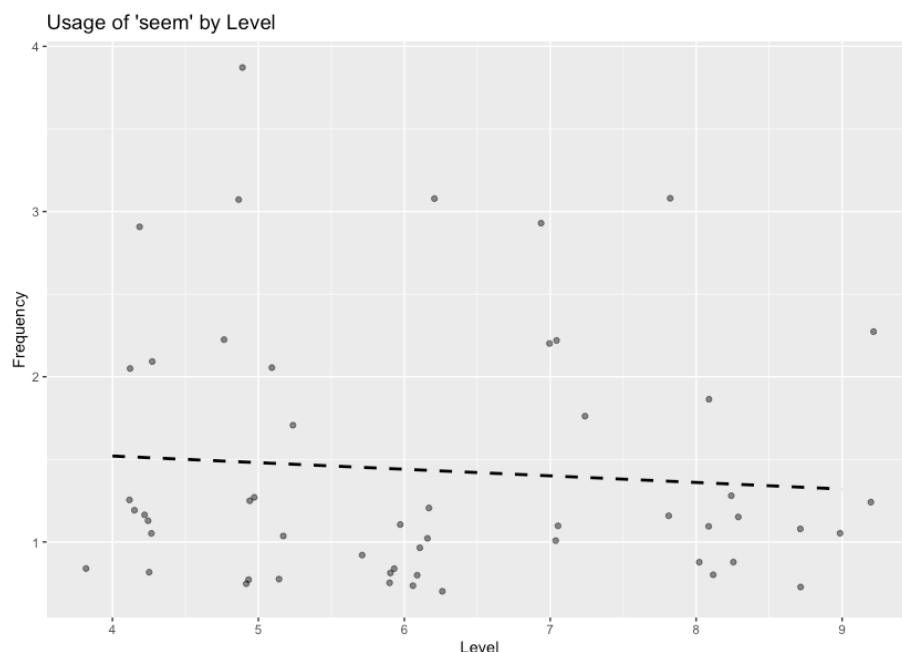


Figure 4.12 Distribution of raw frequency of *seem* across JLE groups

Figure 4.12 shows the distribution of *seem* used by JLE across the proficiency levels. It shows rare pattern in this study as the frequency declines as the proficiency level rises. However, the reason is simple as higher proficiency group use the form of *it seems* more frequently than lower proficiency group. Another scatter diagram in Figure 4.13 depicts the distribution of *seems*, which demonstrates an increase by proficiency level.

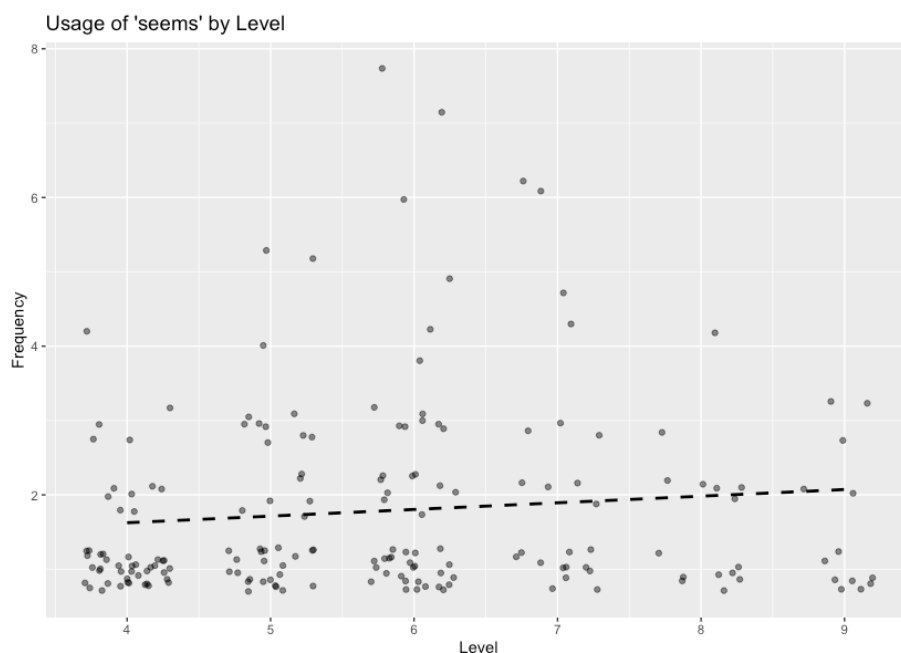


Figure 4.13 Distribution of raw frequency of seems across JLE groups

In this section, the low value group made up of *I guess*, *I don't know*, and *seem* has been explored. One use of the group is as a tool to demonstrate politeness. *I guess* is used more in final position than *I think*, and is a means of avoiding a direct remark. In several examples, speakers show awareness of relatively weak modality of *I guess*, compared to *I think*. This function can be observed with the usage of *I don't know*. It is not only used to respond to a yes-no question, but is also used to show hesitation. Also, JLE use *I guess* and *I don't know* to end a turn. Lower proficiency levels use *seem* in fixed forms such as *seem like* but the advanced groups tend to use the form *it seems*. All of these rich functions of epistemic markers will be compared to the written data in the next section.

4.3 Results of JLE written data analysis

4.3.1 Overview of the results in written data

Table 4.13 shows the frequency of each verb across the proficiency levels in the written data. Figure 4.14 below is its visualisation. It illustrates the general trend that JLE make heavy use of *I think*, compared with other verb choices, which is identical with the patterns shown by the spoken data.¹⁷ This also verifies previous studies indicating the reliance of L2 learners on *I think* in written texts as well (Kärkkäinen, 2003; Zhang & Sabet, 2016). However, other tendencies differ from those seen for the spoken data. In contrast to the spoken data, for example, *I believe* is more frequently used in the higher level groups B2 and C1. In addition, *I guess* and *I mean* are less frequently used among higher proficiency groups, whereas *I know* and *seems* are relatively more frequently used.

¹⁷ The high frequency in A1 level group is due to the prompt of the task that requires a specific phrase such as *I think you should*.

Table 4.13 Frequency breakdown of target verbs by each proficiency group in the written data

<i>Epistemic verbs</i>	<i>A1</i>	<i>A2</i>	<i>B1</i>	<i>B2</i>	<i>C1</i>
I@think	140.2	90.4	167.8	151.2	116.4
I@believe	0	5.4	33.2	112.4	112.9
I@know	10.8	20.9	71.2	46.5	49.4
I@mean	0.9	0.5	1.8	1.3	7.1
I@guess	0	3.2	9.7	3.9	14.1
<i>seem(s)</i>	3.6	10.2	19.3	34.9	28.2

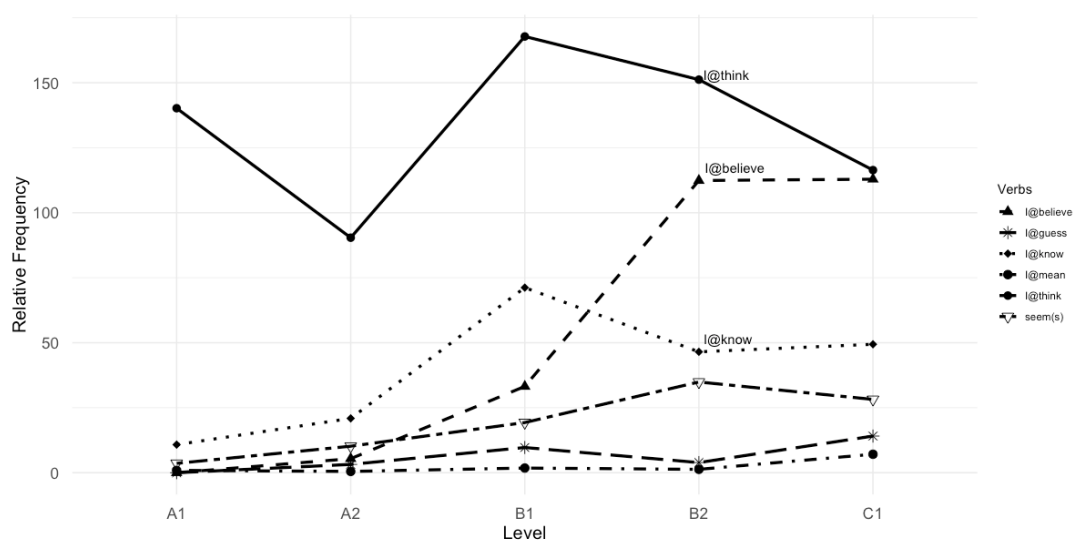


Figure 4.14 Epistemic verbs across five different proficiency groups

Figure 4.15 displays the results as percentages, segmented into three groups within the SFL framework, i.e. high, median, and low value.

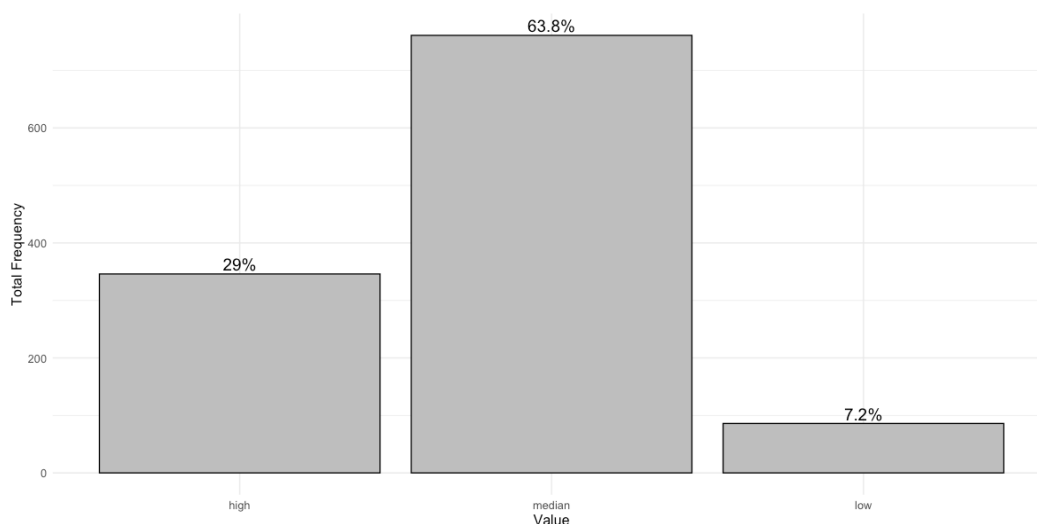


Figure 4.15 Proportions of use of high, median and low value verbs in the written data

The high value group, which contains verbs expressing certainty such as *I believe* and *I know*, accounts for 29% of total use of these target verbs. This is roughly six times higher than the results observed in spoken data¹⁸. Notably, *I believe* is used much more frequently in written data compared to spoken data. Similar to the spoken data, median value verbs are dominant in the written data, accounting for 63.8%, which is 70.9% in the spoken data. This decline in share can be attributed to the reduced use of *I mean* in written data compared to spoken. As a consequence of the significant increase in the high value and a slight decline in the median group, the low value decreases by less than a third, resulting in 7.2% of the total data.

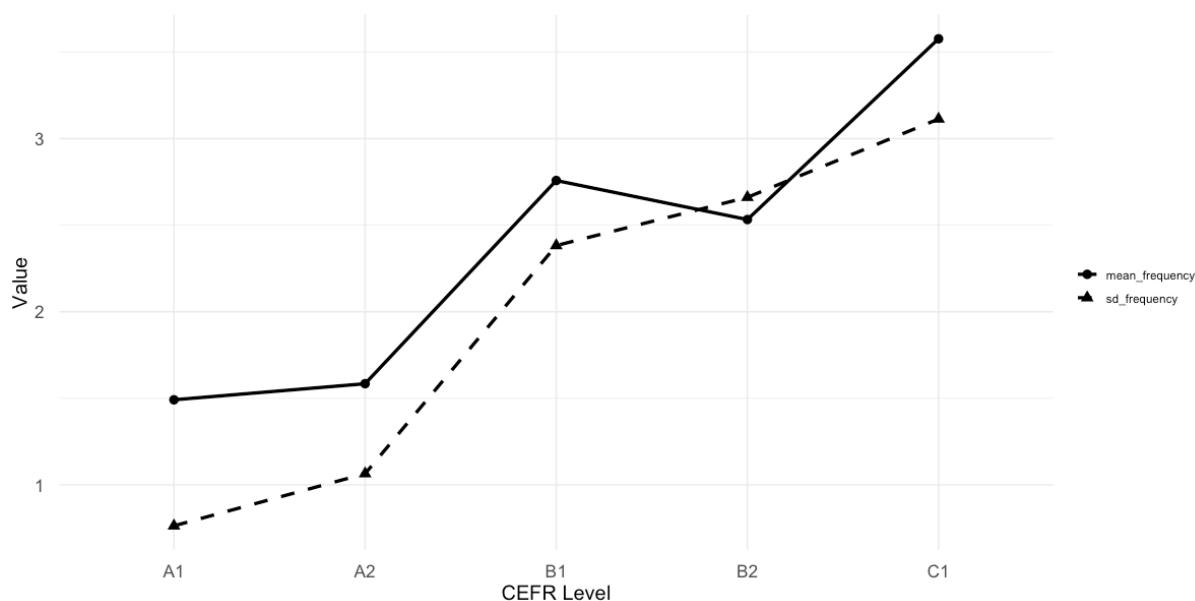


Figure 4.16 Plot from frequency breakdown of target verbs per each proficiency group

The solid line represents the average frequency of verb usage by JLE. On average, the frequency of the target verb phrase used by each learner rises from 1.5 times at level A1 to 3.6 times at level C1. In parallel, the standard deviation, represented by the dotted line, follows a similar pattern to the mean frequency. This suggests that specific learners might be increasing their use of these verbs.

¹⁸ The high group of spoken data accounts for 4.9%, median is 70.9% and low is 24.3%.

4.3.2 High value in written data

The high value verbs show a stark difference in frequency of use compared to the spoken data especially *I believe*. As Figure 4.17 illustrates, among the elementary levels, CEFR A1 and A2, JLE do not use *I believe*. However, its usage increases in B1 and exceeds 100 per 100,000 words in both B2 and C1. The expression *I know* follows a similar trend from A1 to B1, but its frequency remains consistent in B2 and C1. In this section, *I believe* is explored, followed by *I know*.

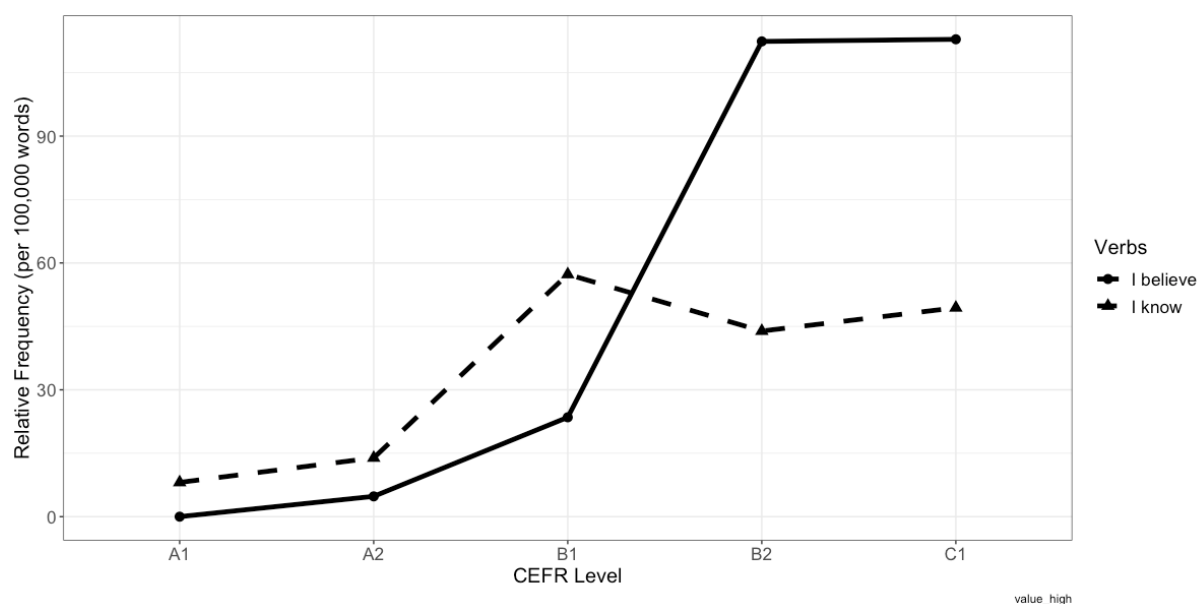


Figure 4.17 Distribution of high value in the SFL

According to Hyland (1994), *I believe* is a ‘twin’ form to *I think* and the former tends to be more used in written language compared to the latter (Zhang & Sabet, 2016). Table 4.14 demonstrates the frequency of *I believe*, which shows a drastic increase in frequency as the language level advances. These increases are remarkable in comparison to the spoken data.

Table 4.14 Frequency of *I believe*

Expression	Value	A1	A2	B1	B2	C1
<i>I believe</i>	High	0.0	4.8	21.7	108.5	102.3
<i>I don't believe</i>	Low	0.0	0.5	9.7	0.0	0.0

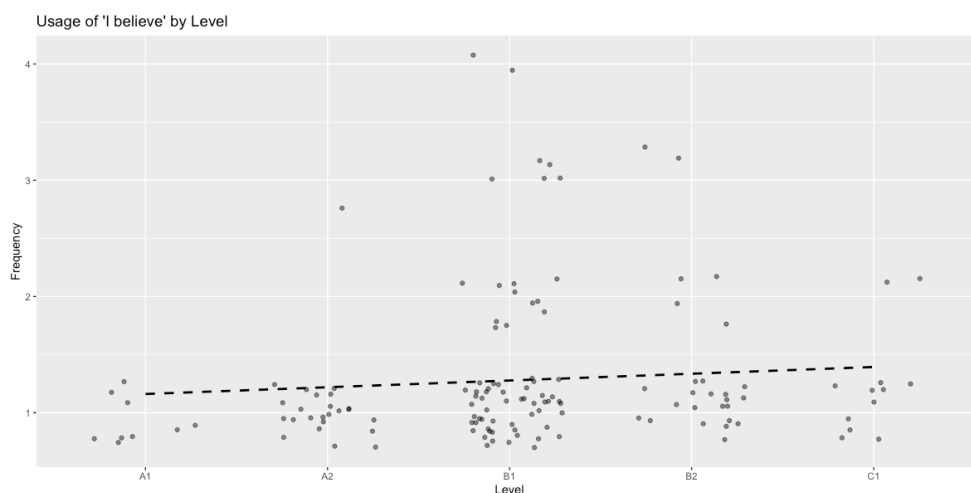


Figure 4.18 Distribution of raw frequency of *I believe* across JLE groups

The strong commitment indicated by *I believe*, which is classified as high value, demonstrates a complex picture of the use by JLE. For example, in the advanced group, 22.2% of use occurs subsequent to the reasoning or explanation in the sentence. Thus these examples entail a conjunction or adverb such as *therefore*, *so*, *however*, *but*, or *because*, as shown in (65) to (67).

- (65) So *I believe* this is the absolutely suitable for you !! (73126_B2_73)
 (66) The reason I applied for this position is because *I believe* that I could be the right person. (3979_A2_44)
 (67) However, if I may select one of them, *I believe* “Century is timeless beauty” is best. (67073_C1_105)

In addition, almost half of the uses of *I believe* in the advanced group is alongside modal verbs, which are also key devices to convey modality. The most frequently used modal verb is deontic *can*, with *I believe* acting as a booster of the proposition made by the main clause which includes *can*, as in examples such as (68) and (69).

- (68) With your help, *I believe* we can make a difference, so I hope you will support me. (140948_C1_97)
 (69) *I believe* you can cut back on your food expense very easily. (39796_C1_100)

In (70) although *would* plays a role to soften the writer’s assertion, *I believe* makes the overall commitment stronger. This example shows that the writer balances his/her level of commitment between the high value of *I believe*, and low value of *would*.

- (70) *I believe* that Safari Card would be a good seller because everyone is interested in environment these days. (90480_C1_103)

The fixation of the position, i.e. before a clause which optionally includes complementiser *that*, can be seen here, and is similar to the case of *I think*. However, fewer cases of *I believe* used as an inserted phrase are found, though (71) provides one example. Understanding of the high value of the commitment might prevent JLE from using the phrase like a grammaticalized or adverbial phrase.

- (71) You, *I believe*, are very talented person and hopeful future. (135241_C1_108)

A feature only observed in writing is usage with adverbs, particularly those conveying certainty such as *totally* in (72), *strongly* in (73), and *really* in (74). An adverb *totally* is used once, and there are three cases of *strongly* and two of *really*. This usage is identified only in B2 and C1, which represent upper intermediate to advanced proficiency level groups.

(72) *I totally believe* it could be an absolutely amazing opportunity for you and your future career. (7595_B2_73)

(73) *I strongly believe* that I am the perfect candidate for the job due to my experience... (39637_B2_76)

(74) *I really believe* you can overcome the fear . stay and think deeply again. Do not rush (50568_B2_82)

In the task instructions for EFCAMDAT, there appear to be no instructions to encourage the use of *I believe*. One possible reason for the higher frequency of *I believe* in the written data compared to the spoken data may be that the writers are aware of the importance of using lexical items with higher certainty in this context. *I believe* fulfils this function in this mode, where speakers cannot convey their utterance with tone, facial expressions, or body language.

Table 4.15 displays the frequency of *I know*, which increases in the intermediate groups and decreases at the advanced level, as illustrated in Figure 4.19. Generally, *I know* is used to indicate the writer's acknowledgment of a proposition. Pragmatically, it serves as a preliminary step to assert their true intention. For example, in (75), the writer uses *I know* to present a concession, making the subsequent statement after *however* more acceptable.

(75) *I think* child prefer sweet food than hot food in general, off course *I know* it depends on child's age or preferences. However it was too spicy [...] (173086_B1_65)

Similarly, in (76), *I know* is employed to concede a point before making a request for permission, thereby making the assertion more palatable. Both examples demonstrate the writer's critical language skills and awareness of how the verb can be used, which goes beyond merely stating a known fact.

(76) I would like to have permission for me to go to sister. *I know* it is not usually case but, this is very important thing to my family [...] (45113_B1_70)

Table 4.15 Frequency of *I know*

Expression	Value	A1	A2	B1	B2	C1
<i>I know</i>	High	8.1	13.9	57.3	43.9	49.4

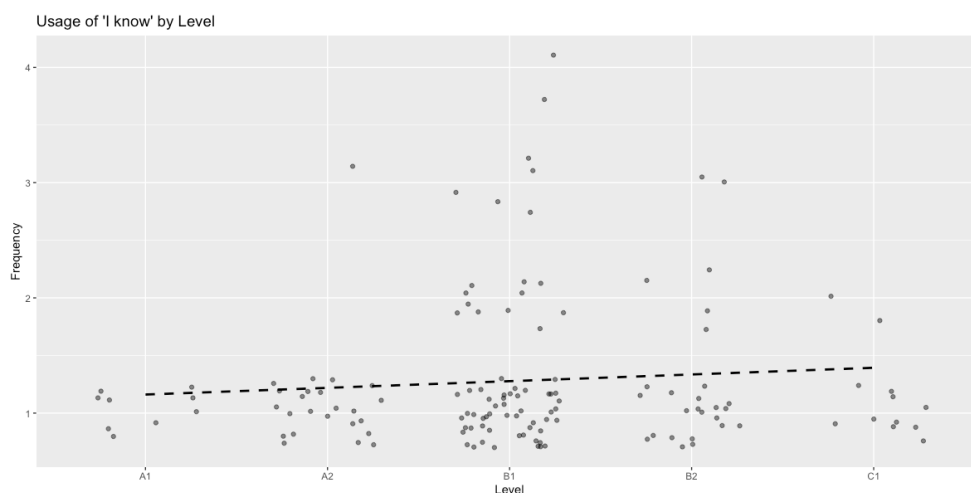


Figure 4.19 Distribution of raw frequency of I know across JLE groups

In this section examining the high value group, two expressions *I believe* and *I know* are examined. In particular, the frequency of *I believe* in advanced groups B2 and C1 is far beyond that seen in the spoken data. This is in line with the description of the dictionary or previous literature, but the difference *seems* greater than these explanations might predict. One possible explanation might be the confidence learners have in writing, in that they have time to think, correct or revise their writing.

4.3.3 Median value in written data

This group account for 63.8% of all the targeted epistemic verbs, as it contains *I think*. The median category includes negation, and therefore *I don't think* is also examined in this section. *I think* is used in A1 level more than 100 times per 100,000 words. However, this high frequency could be due to the prompt of the task providing a phrase containing *I think*. It drops in A2 and increases in B1. It gradually drops again in B2 and C1 as the proficiency grows. On the other hand, *I mean*, which shows high dominance in the spoken data in this group, is sparsely used in the written context. The use of *I mean* with negation occurs only once.

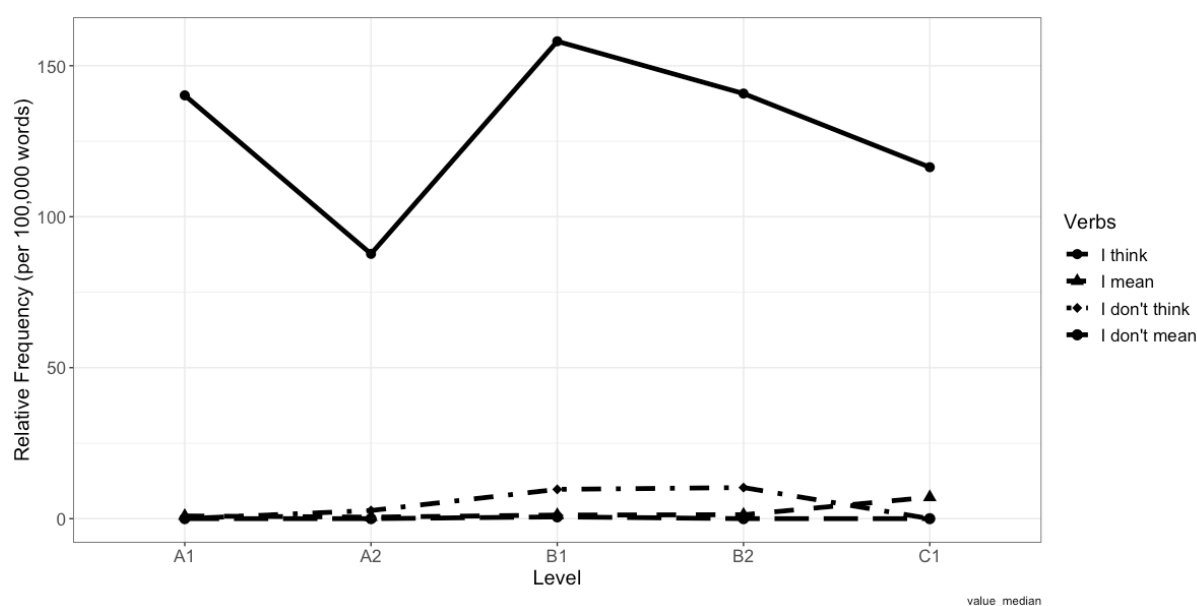


Figure 4.20 Distribution of median value in the SFL

Table 4.16 presents a breakdown of the frequency patterns of *I think* and *I don't think*. The data indicate that the fixed phrase *I think you should* is included in the prompt at the A1 proficiency level, resulting in a disproportionately high frequency at this stage compared to A2. Figure 4.21 illustrates a positive correlation between proficiency level and frequency of usage.

Table 4.16 Frequency of *I think*

Expression	Value	A1	A2	B1	B2	C1
<i>I think</i>	Median	140.2	87.7	158.1	140.8	116.4
<i>I don't think</i>	Median	0.0	2.7	9.7	10.3	0.0

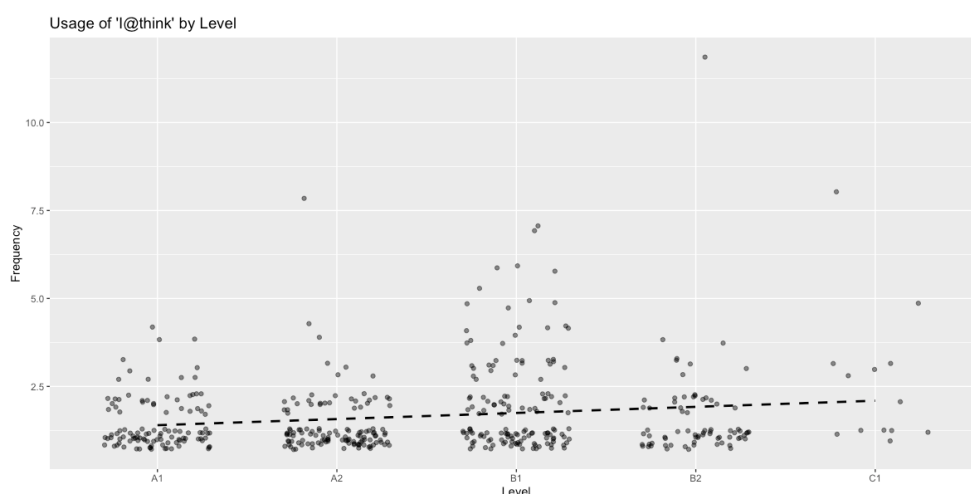


Figure 4.21 Distribution of raw frequency of *I think* across JLE groups

In terms of its position, there is a fixed pattern that JLE write *I think* in the initial position 96.9% of all instances. Compared with the results of Zhang and Sabet (2016), who analysed data from different speaker groups, their findings show that the initial position of *I think* accounts for 85% among Chinese learners, 80% among Persian learners, and 76% among L1 speakers. JLE show a heavier reliance on the initial position of *I think*, although it should be noted that their study focuses on spoken data. The middle and end positions of *I think* by JLE in the current written data set are less frequent, at 1.5% and 1.4% respectively. Examples are provided in (77) for the middle position, and in (78) and (79) for the end position.

- (77) \$ 50,000 salary and full accident insurance and 1 month vacation every year ,
which *I think*, a very charming working condition for you. (45286_B2_73)
- (78) Then, you will give up your shopping addiction, *I think*. (62465_A2_46)
- (79) It might feel you good, *I think*. *I think*, you don't need to hurry up,
(135241_C1_107)

For descriptive tasks, many of which contain speech acts such as advice or apologies, it is expected that JLE will use *I think* most frequently. Narrative is a type of task which requires students to tell a story, such as a movie plot. Two types of primary usage are found in the data. First, *I think* is used to personalise an utterance. In (80), the assertion would be more robust without the phrase, *I think*.

(80) *I think* it was a bad meeting, so I'd like to apologize for it to you [...]
(30235_B1_71)

In this example, it is possible that the writer aims to personalise their assertion by adding *I think* in order to subjectivise their proposition as their opinion rather than a fact. In a sense, it boosts their proposition as their opinion. In this sense, the use of *I think* is not only to show uncertainty or lack of confidence, but to demonstrate their certainty. Similar use can be seen in (81), which personalises the opinion that a painting is wonderful, but can also be interpreted to emphasise that the painting is wonderful by adding *I think*.

(81) The colours are reds, yellows and browns. *I think* this is a wonderful sand painting. It will be sure to ward off [...] (110098_B2_91)

Example (82) is a negative form and may also emphasise the writer's opinion.

(82) In fact, *I really don't think* it is that simple topic. (32017_B2_85)

Another use of *I think* is with a pragmatic function. It is used to show the writer's politeness. It frequently occurs in potentially face threatening correspondence, such examples as in (83) and (84). The writer pays attention to negative face of the recipient of the email or letter and *I think* is added to try to mitigate their advice.

(83) However, *I think* I should say something, which you might not appreciate, as a friend. (67073_C1_109)

(84) Dear Paula, *I think* that your problems are very clear. (131153_C1_100)

Next, *I mean* is explored. The results provided in Table 4.17 demonstrate that *I mean* is used far less frequently compared to the spoken data, where it is used most frequently by the advanced group (discussed in Section 4.2.3).

Table 4.17 Frequency of *I mean*

Expression	Value	A1	A2	B1	B2	C1
<i>I mean</i>	Median	0.9	0.5	1.2	1.3	7.1

All of the uses of *I mean* provide clarification. This clarification functions effectively as the content in the first sentence is expanded in the second sentence, where *I mean* precedes some kind of exemplification, elaboration, or reformulation, as in examples (85) to (91). Example (91) is the only use of this kind with negation in the written context.

(85) If you visiting somewhere, *I mean* friend's home then you shouldn't stay long time. (155473_A2_40)

(86) I have a person who should be together forever. *I mean*, I'm already married. I am sorry I haven't told you about it. (32241_B1_62)

(87) The result is the same. *I mean* that the agent did not work well. (149190_B1_64)

(88) It's useful to remember words with context. *I mean* I can understand how the word can be used in a context. (172913_B2_88)

(89) *I mean* that this picture does not specify any particular personal characteristics but it shows classic and [...] (29329_C1_105)

- (90) our local economy would be destroyed in the long term point of view. *I mean* that there might be good effect at the beginning. But *I do think* it [...] (128098_C1_118)
- (91) Ops, *I don't mean* they are going to divorce. I am wondering if this gossip could be an [...] (111667_B1_56)

One clear feature of this epistemic stance marker is that it is most frequently used by the advanced level group. In general, the advanced group expand their sentences more naturally than lower groups. In doing so, the epistemic verb phrase *I mean* often plays a vital role. It helps reframe the writer's clarification or elaboration within their limited linguistic knowledge as L2 English writers. The use of *I mean* in this case is one of the vital terms that distinguishes the level of the learner groups.

4.3.4 Low value in written data

This low value category comprises only 7.2% of all use in the written data and is less than a third of the 24.3% observed in the spoken data. The use of *I guess*, represented by the dashed line in Figure 4.22, increases up to B1 level and decreases at B2, but it reaches the highest frequency at C1 level. *I don't know*, represented by the solid line, is used most frequently by B1 level. However, its use declines sharply and reaches its lowest point in C1 in the written data. This pattern is different from trajectory in the spoken data where *I don't know* is used more frequently as the proficiency level rises and is most frequent by Level 9. This section delves further into these expression in the following order: *I guess*, *I don't know*, and *seem(s)*.

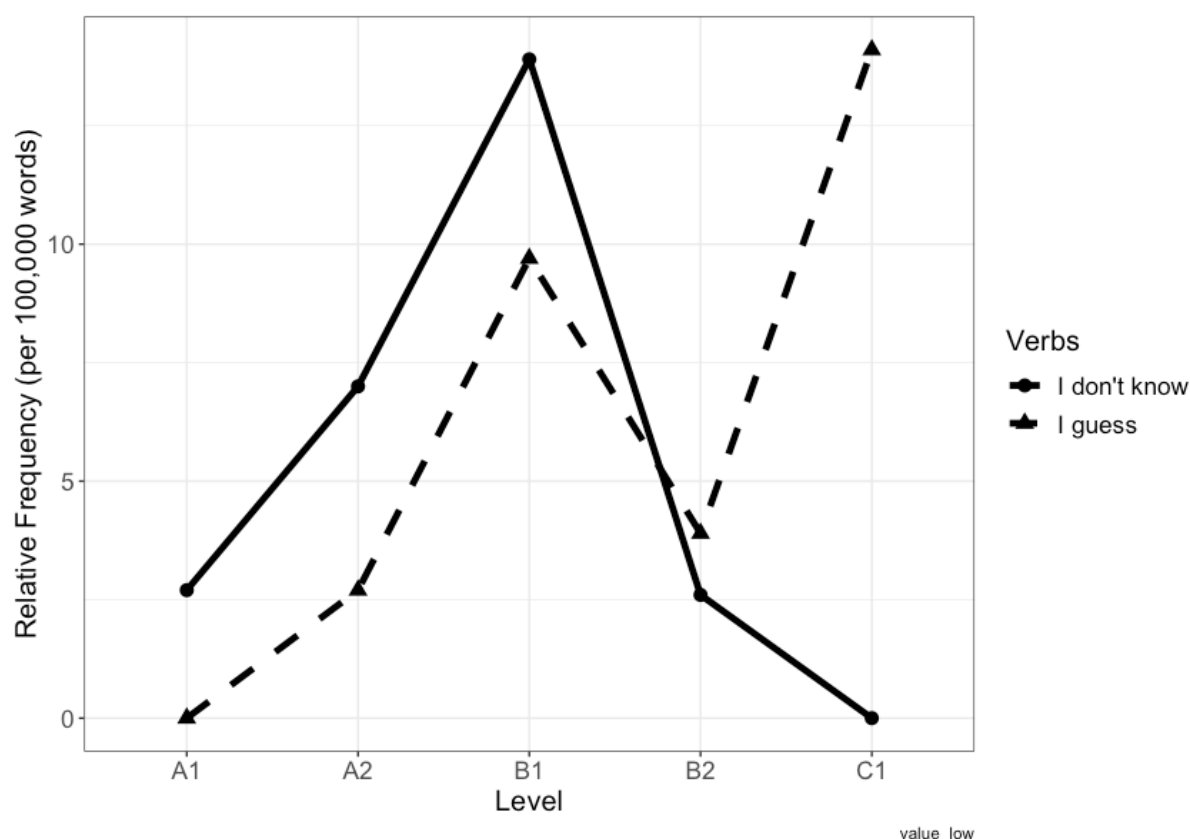


Figure 4.22 Distribution of low value in the SFL

Table 4.18 Frequency of *I guess*

Expression	Value	A1	A2	B1	B2	C1
<i>I guess</i>	Low	0.0	2.7	9.7	3.9	14.1

The use of *I guess* provided in Table 4.18 shows the most marked difference in frequency of use according to language proficiency. All the examples in (92) to (95) are extracted from the advanced group. They all contain other epistemic forms in addition to *I guess* such as *are going to* in (92), which express evidential stance. These examples suggest that advanced learners recognise the function and necessity of epistemic forms in a certain context, and they show their weak commitment to the proposition by combining *I guess* and other epistemic forms that they think are appropriate. In (95), the writer seems to write in colloquial style as can be seen in use of *please* and therefore *I guess* is used at the end of sentence.

- (92) However, *I guess*, more and more people are going to buy products along with the advancement of the more user-centered websites as well as the increase of the electronic contents. (91751_C1_119)
- (93) So, *I guess* the cost could be less than or equal to our last product: Animals of the African Continent. (29329_C1_103)
- (94) *I guess* it means literally same as picture. (128098_C1_104)
- (95) [...] but please keep it a secret. Please. He'll quit next year, *I guess*. (83706_B1_54)

I guess is used most frequently by the most advanced groups both in the spoken and written mode.

I don't know is less used compared with the spoken data. Notably, end position is rarely used as *I don't know* usually precedes a *that*-clause. Example (96) provides an exception. Adding *I don't know* as a hedge at the end position in (96) contributes to informal style. As the results in Table 4.19 demonstrate, this phrase is used most frequently by B1 group, but the upper intermediate groups do not use it at all. This is contrary to the results in the spoken data in that *I don't know* is used most frequently by the most advanced proficiency group, Level 9.

Table 4.19 Frequency of *I don't know*

Expression	Value	A1	A2	B1	B2	C1
<i>I don't know</i>	Low	2.7	7.0	13.9	2.6	0.0

- (96) She took a young boy who might be her son or not, *I don't know*. (149477_B1_60)

As writing is a static task, use of *I don't know* may be less frequent than in the spoken mode as the writer will have chance to contemplate the contents or check the facts they are concerned about.

At the end of this section, *seem* is examined. A breakdown of the frequency is provided in Table 4.20.

Table 4.20 Frequency of *seem(s)*

<i>Expression</i>	<i>Value</i>	<i>A1</i>	<i>A2</i>	<i>B1</i>	<i>B2</i>	<i>C1</i>
<i>seem</i>	Low	0.9	1.6	11.5	5.2	3.5
<i>seems</i>	Low	2.7	8.6	7.8	29.7	24.7

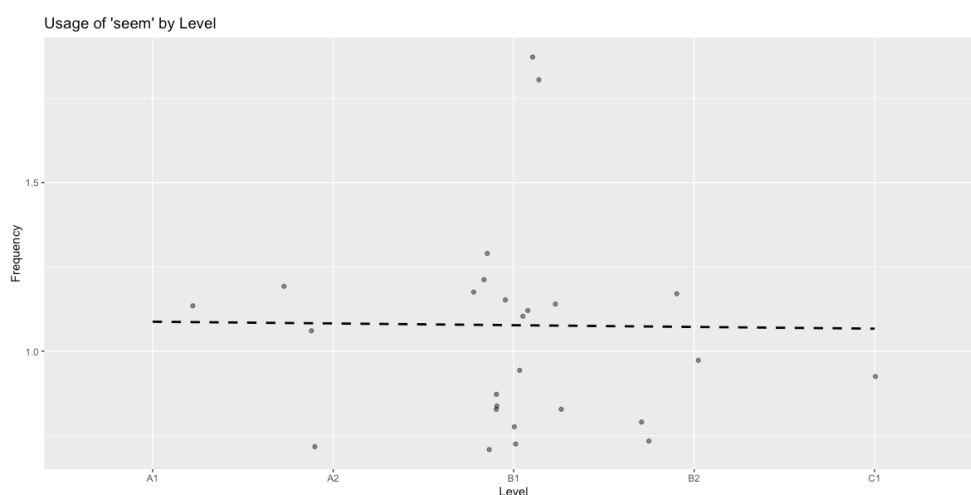
Using the epistemic verb *seem* can be slightly challenging for JLE compared with other items such as *I think*, which is used almost like a set phrase and therefore does not require JLE to contemplate subject-verb agreements in the present tense, which they do not have in their L1. In contrast, using *seem(s)* requires more cognitive effort to generate sentences, as JLE need to handle subject-verb agreements appropriately and choose between two major forms: *it seems (that)* or *subject seem(s)*. As a result, there are several grammatical errors such as in (97). It is, however, not a primary focus for this study, and examples are counted and analysed regardless of whether they might be considered errors.

(97) The impression of this song *seem* [*sic*] soft and nice but [...] (71648_B1_58)

In (98), the writer mentions their health insurance covers the activities they are involved in. In (99), use of *seems* is an example of politeness marker. In this context, where the writer is writing to reject an application for a position, stating directly that two years of experience is insufficient may come across as too blunt. Here, the use of *seem* does not necessarily convey the fact, but it helps to mitigate the impact of the rejection, making it a critical choice.

(98) My health insurance *seems* to cover these activities. So my concern is all cleared. (76626_B1_68)

(99) [...] we can not help to conclude that your working experience with two years *seems* insufficient for the position you sought. (67073_C1_107)

Figure 4.23 Distribution of raw frequency of *seem* across JLE groups

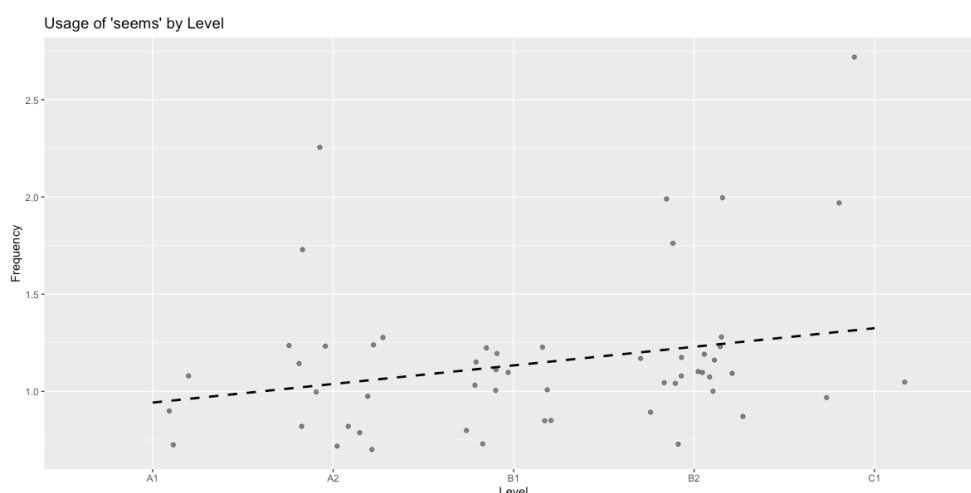


Figure 4.24 Distribution of raw frequency of seems across JLE groups

Figure 4.23 and Figure 4.24 illustrate the frequencies of *seem* and *seems* across all proficiency levels, respectively. The increase in the use of *seems* is due to the development of the skill to use non-animate subjects, as shown in examples (98) and (99), which is often required when using *seem*.

4.4 Comparison with native speakers of English

This section compares the data on epistemic verbal expressions in spoken data that has been presented above with corpus data collected from native speakers of American English (NS). Although only advanced groups have been compared in the previous chapter on adverbs, use of epistemic devices by Levels 6 to 9 groups are compared with those of NS in this chapter. Almost all of the target adverbs are used most frequently by Level 9 JLE and therefore these seems to be a clear rationale in comparing Level 9 groups with NS using Welch's t-tests. However, the developmental patterns examined in this chapter thus far show a different trend. For example, *I mean* is used most frequently at Level 8 and frequency of *seem* likewise peaks at Level 6. Therefore, these Levels 6 to 9 groups are compared to NS.

For this purpose, the Kruskal-Wallis test is utilised to conduct a statistical analysis between groups, Levels 6, 7, 8, 9 and NS. The Kruskal-Wallis test is a non-parametric method designed to detect differences in medians across more than two groups. Given the relatively large variance in the data, non-parametric tests are preferred over their parametric counterpart, the one-way ANOVA. While the Kruskal-Wallis test identifies differences among groups, it does not specify which subgroups significantly differ from each other. As such, post hoc tests, specifically the Wilcoxon rank sum test (also known as the Mann-Whitney U test), are subsequently employed to evaluate each pair of groups. To mitigate the risk of Type I errors, the Bonferroni adjustment is applied to the results of individual verb analyses.

A subset of the NICT JLE corpus is used for this case study. The data contains 96,727 tokens spoken by a group of twenty native speakers of American English. As EFCAMDAT does not contain NS data, only spoken data are examined in this section as in the previous chapter. This data has been selected using the same criteria as for JLE, described in Section 4.1. Cases containing up to two words between *I* and *think* such as *I just think that* are counted. Furthermore, non-epistemic use has been eliminated manually. For example, in (100), the phrase *I can think of* refers to the cognitive state of thinking something, which is different from epistemic modality. It is therefore taken out of the data.

(100) *Maybe the only thing I can think of would be like her keyboard of her computer is really loud.* (file00019_ns_8)

In general use, *think* frequently collocates with the preposition *about* in (101), and this kind of use is also eliminated as it does not express epistemic meaning.

(101) *I didn't think about it all the time.* (file00013_ns_3)

However, cases like (102) are included, as it means ‘approximately sixty’. The rest of the target verbal expressions are extracted by the same method.

(102) *Um well like there're sixty people living there. I think about sixty.*
(file00012_ns_1)

As a result, the frequency of epistemic verb expressions by NS is provided in Table 4.21. This result is presented alongside the frequency by JLE given in Table 4.3.

Table 4.21 Frequency breakdown of target verbs per each proficiency group vs. NS

<i>Epistemic verbs</i>	<i>NS</i>	<i>Lv6</i>	<i>Lv7</i>	<i>Lv8</i>	<i>Lv9</i>
I@think	280.17	340.3	404.7	343.6	495.3
I@believe	6.2	4.7	4.7	4.8	14.0
I@know	200.6	131.5	153.8	156.9	194.7
I@mean	126.13	98.8	110.4	124.8	84.1
I@guess	143.7	26.3	61.3	51.1	155.8
<i>seem(s)</i>	57.89	66.1	57.5	44.0	42.1

Note : @ indicates these data include negative forma such as *I don't think*.

4.4.1 Results of comparison

The Kruskal Wallis test results are presented in Table 4.22. This table illustrates the comparison among five distinct groups, which consist of NS, CEFR B1 (Levels 6, 7, and 8) and B2 and above (Level 9). The null hypothesis posits that there is no difference in the median frequencies across all groups. The table provides the test statistics, degrees of freedom and p-value for reference.

Table 4.22 Comparison of the groups: Kruskal Wallis

Value	Verbs	<i>H(4)</i>	<i>p-value</i>
High	<i>I believe</i>	20.097	<.001
	<i>I know</i>	76.263	<.001
Median	<i>I think</i>	114.37	<.001
	<i>I mean</i>	35.523	<.001
Low	<i>I guess</i>	68.13	<.001
	<i>I don't know</i>	73.811	<.001
	<i>seem</i>	24.73	<.001

H: test statistic (degree of freedom)

The results can be interpreted to mean that the null hypothesis is rejected and there is a significant difference in at least one combination of groups across all the verbs.

Consequently, in the subsequent section, a post hoc test (the Wilcoxon Rank-sum test) will be conducted to pinpoint the specific groups between which significant differences occur.

Table 4.23 presents the post hoc test results for the phrase *I think*. The asterisk symbol denotes the level of significance between the paired groups. The effect size is represented by the rank biserial correlation coefficient, *r*, which ranges from -1 to 1. A value closer to one indicates a stronger effect, while a value of zero suggests no relationship (Brezina, 2018, pp. 196-197).

For *I think*, the highest frequency occurs in Level 9, closely mirroring that of the NS group. As such, primary attention should be directed towards these two groups. The test results do not refute the null hypothesis suggesting no difference between JLE of Level 9 and NS. Put differently, there is no significant disparity between these two groups. This finding implies that those at the CEFR B1 level use *I think* considerably less often than NS.

Table 4.23 Group comparison: *I think*

Group	<i>p</i> -value	sig.	<i>r</i>
NS-lv6	<.001	***	.96
NS-lv7	<.001	***	.86
NS-lv8	<.001	***	.81
NS-lv9	1	-	.56
lv6-lv7	<.001	***	.30
lv6-lv8	<.001	***	.24
lv6-lv9	<.001	***	.08
lv7-lv8	1	-	.42
lv7-lv9	<.001	***	.20
lv8-lv9	<.001	***	.24

< .001 ***, < .01 **, < .05 *

This observation is visually clearer in the boxplot in Figure 4.25.

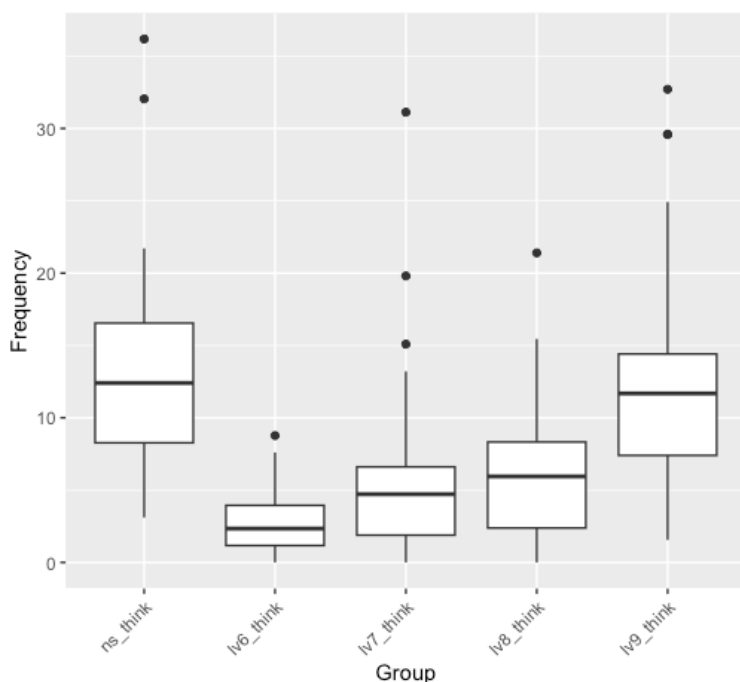


Figure 4.25 Boxplot of *I think* usage: NS vs. JLE Groups

No statistically significant difference is found between NS and JLE in B2 level. Nevertheless, two noticeable features are identified, relating to the way *think* combines with adverbs and with modal verbs. One is the combination with adverbs. The other is the combination with modal verbs. For example, an adverb *just* in (103) to (106) works as a type of downtoner of the epistemic verb whereas *always* enhances the certainty of the proposition in (106). Technically, the former case is closer to the low value category, and the latter comes closer to high value.

- (103) *I think I just think* he did a really good job. (file00002_ns_8)
- (104) Erm er a and *I just think* I got a better deal. (file00003_ns_7)
- (105) And *I also just think* she's a really talented actress. (file00005_ns_8)
- (106) Like *I always think* the places we're staying is fine. (file00012_ns_7)

The combination of *I think* with modal verbs, such as in the phrase *I would think* in (107), (108), and (109).

- (107) Um *I would think* that, in that case, that you should have probably um notified us that... (file00012_ns_3)
- (108) Well *I would think* that that maybe for for future references, you should probably tell people um... (file00012_ns_3)
- (109) Well *I should I would think* that before you go around making promises to your customers that you would... (file00014_ns_3)

I might think in (110), is a usage pattern characteristically observed among native speakers of this corpus data.

- (110) If my dogs liked cats, *I might think* about liking cats. (file00007_ns_8)

The results of the post hoc test of *I believe* are shown in Table 4.24. There is a significant difference between NS-Level 7 ($p < .05$, $r = .63$) and NS-Level 6 ($p < .001$, $r = .63$).

Table 4.24 Group comparison: *I believe*

Group	<i>p</i> -value	sig.	<i>r</i>
NS-lv6	<.001	***	.63
NS-lv7	.015	*	.63
NS-lv8	.163	-	.61
NS-lv9	1	-	.54
lv6-lv7	1	-	.49
lv6-lv8	1	-	.49
lv6-lv9	.052	-	.43
lv7-lv8	1	-	.49
lv7-lv9	.418	-	.44
lv8-lv9	.817	-	.44

< .001 ***, < .01 **, < .05 *

As the Figure 4.26 shows, usage of *I believe* is limited across all the groups of JLE.

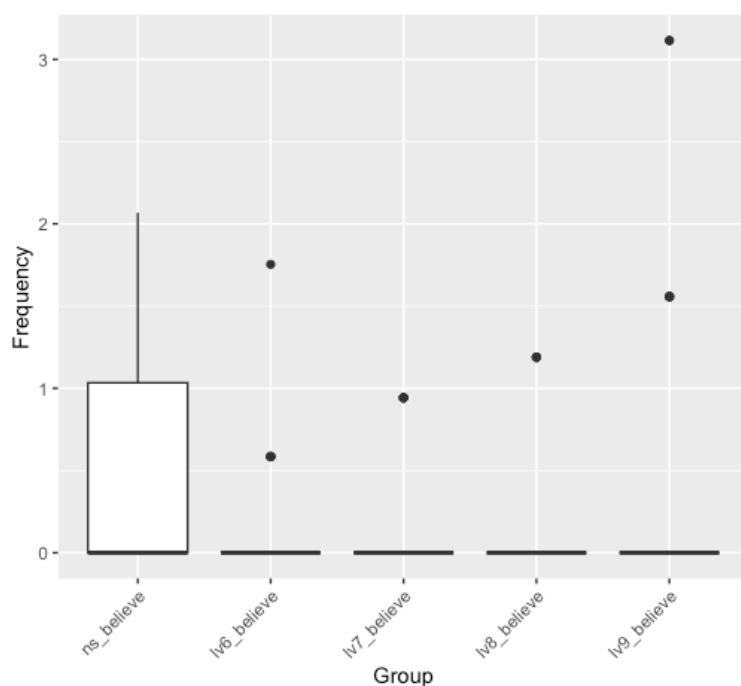


Figure 4.26 Boxplot of *I believe* usage: NS vs. JLE Groups

I believe is also rare in the NS data, where only the following three cases are found. In (111) and (112), *I believe* is used at the end of the sentence.

- (111) The term *I think* ends on December twentieth, *I believe*. That's the end of final's week. (file00002_ns_5)
- (112) And the clerk is pointing at the watches, *I believe*. So *maybe* it's a question about watches. (file00004_ns_2)

In (113), the speaker shows caution about the accuracy of the time by using *I think* in the middle of the sentence, and adds another epistemic marker *I believe* at the end. Alternatively, the speaker might be asserting a certain degree of confidence beyond *I think* by adding *I believe*.

(113) Erm *I believe* I even tried to eat there, but couldn't get into a restaurant.
(file00007_ns_1)

Table 4.25 Group comparison: *I know*

Group	<i>p</i> -value	sig.	<i>r</i>
NS-lv6	<.001	***	.97
NS-lv7	<.001	***	.97
NS-lv8	<.001	***	.85
NS-lv9	.002	**	.79
lv6-lv7	1	-	.53
lv6-lv8	.401	-	.43
lv6-lv9	.003	**	.34
lv7-lv8	.234	-	.41
lv7-lv9	.004	**	.34
lv8-lv9	.873	-	.41

< .001 ***, < .01 **, < .05 *

As for *I know*, the highest frequency of occurrence is NS in 200.6 and Level 9 in 194.7, a marginal difference. However, these frequencies show significant difference in the comparison of the median ($p < .01$, $r = .79$), presented in Table 4.25 above. The boxplot in Figure 4.27 below illustrates the difference.

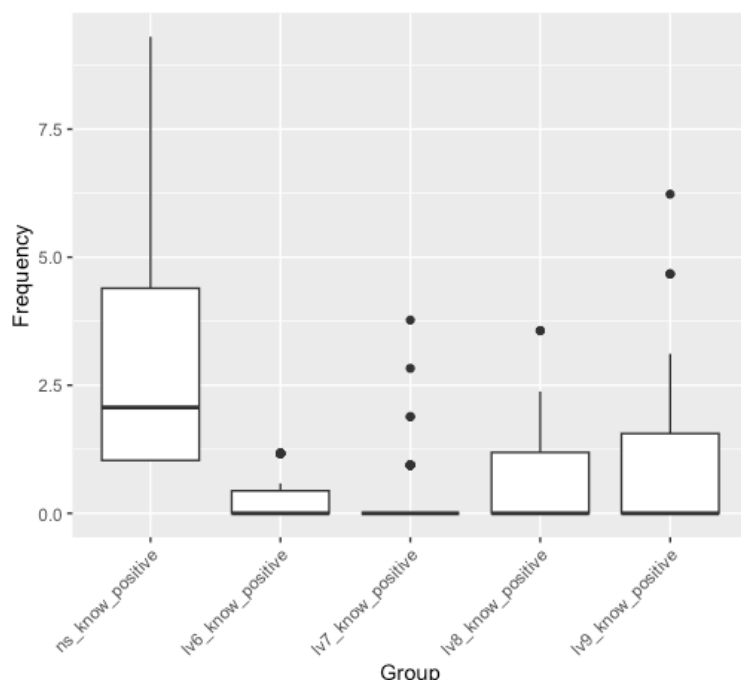


Figure 4.27 Boxplot of *I know* usage: NS vs. JLE Groups

Both JLE and NS utilise the concessive form *I know x but* exemplified in (114). This pattern is especially prevalent in the role-play task for both NS and JLE.

(114) It rained. *I know* you have no control over the weather, *but* this just added fuel.
(file00010_ns_3)

The way this form is repeated varies between the two groups. As discussed in section 4.2.2, JLE often give a sympathetic reply like *I know, I know*, which might be influenced by their L1. In contrast, NS use *I know* more straightforwardly as seen in (115).

(115) *I know I know* that it was a disappointment for you so ur I hope you won't
(file00011_ns_3)

One factor that contributes to the increased frequency among NS is the use of the relative clause, which are less frequently used by JLE. Regardless of including the relative clause or omitting it, it is often used to modify a preceding noun as in examples (116) and (117).

(116) But ur the only one that *I know* was released in America as an actual movie was
"Shall We Dance?" (file00004_ns_7)

(117) Erm in XXX04 , there's three centers in Japan that *I know* of, here, and XXX05
and somewhere else that I can't remember at the (file00007_ns_1)

Fixed expressions like *none that I know of*, shown in (118), are also rare among JLE.

(118) Mm none that *I know* of. (file00010_ns_6)

The relative clause is omitted in (119).

(119) And it's pretty much a mix of the few words *I know* in Japanese ...
(file00010_ns_1)

The phrase *I mean* is the most frequently used in Level 8, followed by Level 7, Level 6 and Level 9. There are statistically significant differences between NS and every one of these groups, but the degree of difference varies. Table 4.26 provides the detail and Figure 4.28 visualises it. The most significant difference lies in Level 6 with $p < .001$; $r = .87$; NS and Level 7 with $p < .001$; $r = .81$. Level 8 that the highest frequency shows a middling difference ($p < .01$, $r = .74$), and the less frequent group Level 9 still shows the significant difference ($p < .01$, $r = .76$).

Table 4.26 Group comparison: *I mean*

Group	<i>p</i> -value	sig.	<i>r</i>
NS-lv6	<.001	***	.87
NS-lv7	<.001	***	.81
NS-lv8	.008	**	.74
NS-lv9	.006	**	.76
lv6-lv7	.406	-	.43
lv6-lv8	.103	-	.40
lv6-lv9	1	-	.43
lv7-lv8	1	-	.47
lv7-lv9	1	-	.50
lv8-lv9	1		0.51

< .001 ***, < .01 **, < .05 *

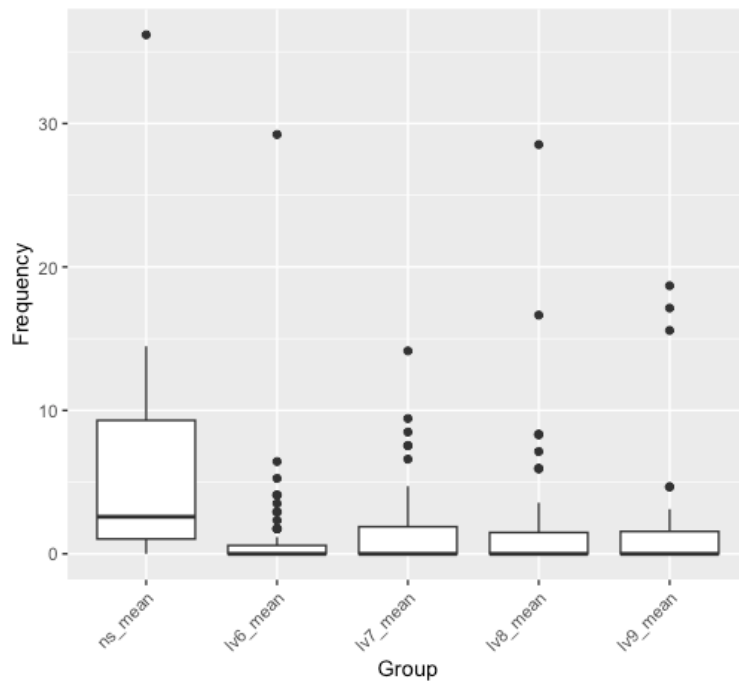


Figure 4.28 Boxplot of *I* mean usage: NS vs. JLE Groups

The results of *I guess* are shown in Table 4.27. *I guess* is used more frequently by Level 9 than NS (155.8 vs.143.7, see Table 4.21).

Table 4.27 Group comparison: *I guess*

Group	<i>p</i> -value	sig.	<i>r</i>
NS-lv6	<.001	***	.92
NS-lv7	<.001	***	.89
NS-lv8	<.001	***	.86
NS-lv9	.052	-	.72
lv6-lv7	.05	-	.41
lv6-lv8	.049	*	.41
lv6-lv9	<.001	***	.33
lv7-lv8	1	-	.49
lv7-lv9	.174	-	.38
lv8-lv9	.302	-	.39

< .001 ***, < .01 **, < .05 *

According to the information illustrated in Figure 4.29, although seemingly there is a difference between Level 9 and NS, the post hoc test does not corroborate this ($p > .05$, $r = .72$).¹⁹

¹⁹ Welch two sample t-test also rejects it ($p=.054$).

data: ns_guess and lv9_guess
 $t = 1.9882$, $df = 39.045$, $p\text{-value} = 0.05384$
 95% confidence interval: [-0.058, 6.744]
 mean of NS, mean of JLE(Lv9): 7.237, 3.894

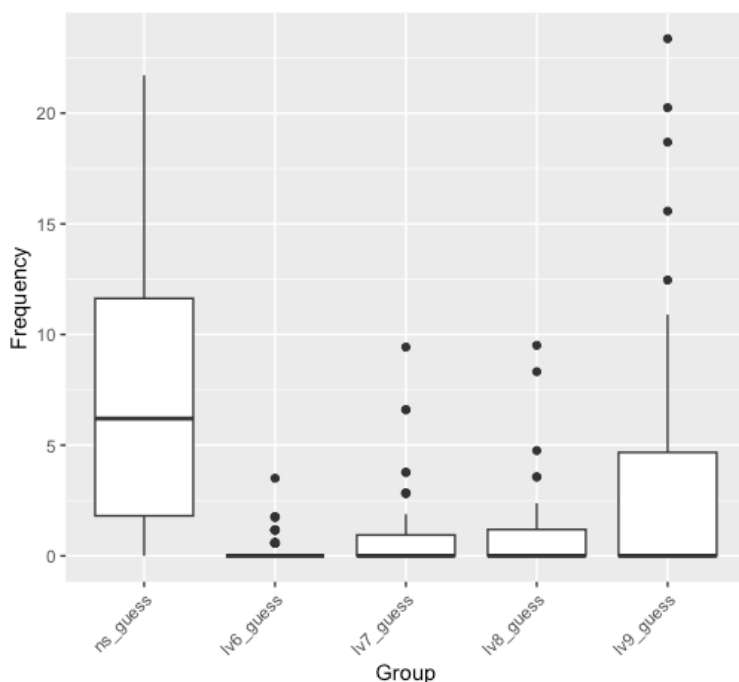


Figure 4.29 Boxplot of *I guess* usage: NS vs. JLE Groups

In the following case in (120), *I guess* is used to mitigate the advice from the speaker to the listener, who hesitates to meet with a person.

(120) But *I guess* you just have to meet them back by being aggressive.
(file00012_ns_7)

This sequence is used to protect the negative face of the listener. This usage can be found in the JLE data, but it is more characteristic in NS discourse. Simply put, the epistemic verb *I guess* is not used only to do guesswork, but to show politeness by indicating the attitude towards the proposition, just as *I think* is used to mitigate the force of direct assertion when the speaker feels it helps to save their positive face or the listener's negative face.

In (121), the speaker criticises the way the teacher runs the class because sometimes the teacher goes off topic and out of textbook order.

(121) *I I mean, I guess* in a way, it's it's *kind of* organized, but it's not like it's not textbook organized. You know, when you have like chronological dates.
(file00002_ns_8)

The speaker starts the utterance with *I mean*, for refining, and then by using *I guess* or *kind of* or *in a way*, the speaker is attempting to convey that the manner of teaching is not completely disorganised.

In (121), *I guess* could be replaced by other epistemic verbs such as *I think*, but it would sound stronger than *I guess*. If so, the choice to use *I guess* for learners should be important. If they have no other choice but to rely on *I think* when they want to use a weaker epistemic marker like *I guess*, then there is a benefit to consciously learning to use *I guess* because this may allow them to convey a weaker epistemic meaning more effectively.

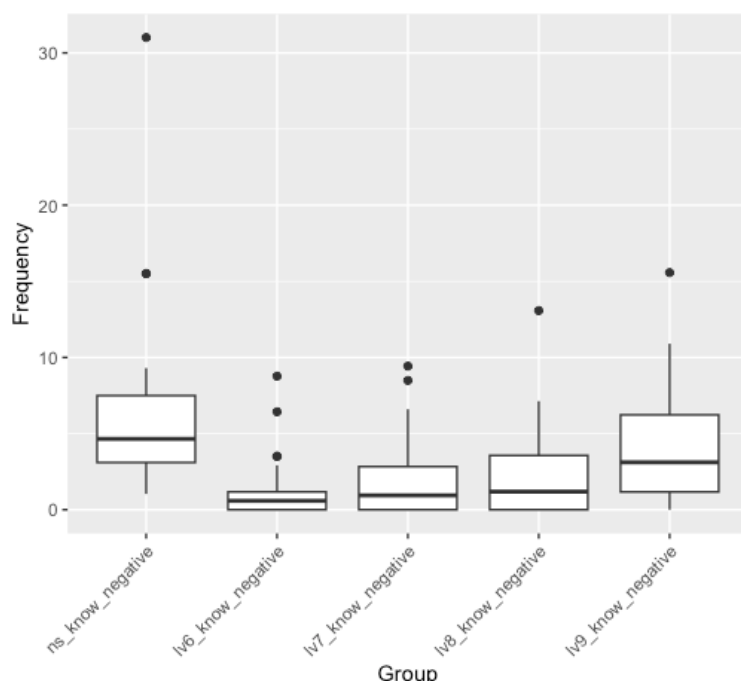
The frequency of *I don't know* is higher than affirmative *I know*. The post hoc test shows that there is a significant difference between NS and Level 8 ($p < .001$, $r = .79$) and lower proficiency groups shown in Table 4.28, but not between NS and Level 9 ($p > .05$, $r = .64$).

Table 4.28 Group comparison: *I don't know*

Group	<i>p</i> -value	sig.	<i>r</i>
NS-lv6	<.001	***	.94
NS-lv7	<.001	***	.87
NS-lv8	<.001	***	.79
NS-lv9	.737	-	.64
lv6-lv7	.003	**	.35
lv6-lv8	<.001	***	.28
lv6-lv9	<.001	***	.23
lv7-lv8	1	-	.43
lv7-lv9	.014	*	.32
lv8-lv9	.19	-	.36

< .001 ***, < .01 **, < .05 *

These results are visualised in Figure 4.30.

Figure 4.30 Boxplot of *I don't know* usage: NS vs. JLE Groups

The negative form of *I know* needs to be examined according to its functions. In (122), NS in B is asking the examiner A in a roleplaying of landlord for coming and fixing the door at the earliest possible time. As A declines the request, B asks again but before that, showing the hesitation by using *I don't know* in line 3.

(122)

1 [...] So is there any way you could come up here and fix it today?

2 <A> Erm well *I don't know* about today. Maybe well Wednesday, Thursday?

3 Ooh. Wow. Erm that's really late. *II don't know*. It, there's absolutely no time you can come up today?

4 <A> Hm. Er I'm really busy right now. (file00001_ns_3)

The results of *seem(s)* provided in Table 4.29 and illustrated in Figure 4.31 below demonstrate that there is a statistically significant difference between NS and each JLE group, e.g., NS-Level 9 ($p < .05$, $r = .73$), yet no difference among JLE groups.

Table 4.29 Group comparison: *seem(s)*

Group	<i>p</i> -value	sig.	<i>r</i>
NS-lv6	<.001	***	.81
NS-lv7	<.001	***	.80
NS-lv8	.004	**	.75
NS-lv9	.016	*	.73
lv6-lv7	1	-	.50
lv6-lv8	1	-	.46
lv6-lv9	1	-	.48
lv7-lv8	1	-	.47
lv7-lv9	1	-	.48
lv8-lv9	1	-	.50

< .001 ***, < .01 **, < .05 *

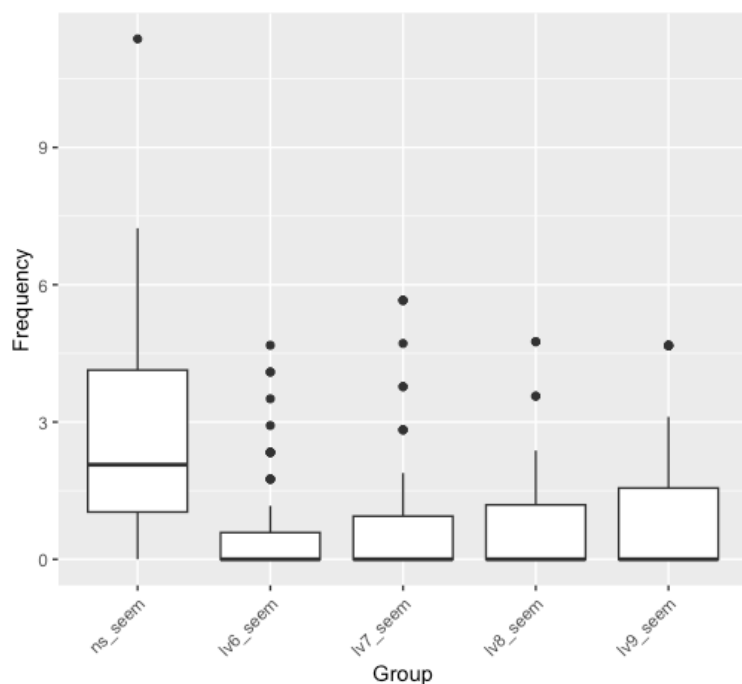


Figure 4.31 Boxplot of *seem* usage: NS vs. JLE Groups

In the spoken data, *it seems* with a *that*-clause is extremely rare. Only one example is found in (123).

- (123) *It it seems that* erm you know, one of our neighborhood kid's *probably* threw a ball at... (file00001_ns_3)

Seem is quite often used with *like* in the phrase *it seems like*, as in (124) and (125).

- (124) So I never really s *it never seems like* I really like being there. (file00004_ns)

- (125) right-hand corner, there's four people who are gonna talk about something, because *it seems like* they're coming together. (file00008_ns_2)

Without *that*-clause, *seem* is used as in (126) to (127).

- (126) *I think* it's because they ha urm here it is at least to me *it seems* there's more variety of fish because I don't like what they have at home. (file00009_ns_8)
(127) So *it seems* if you're in nicer stores, like in Seibu, (file00012_ns_7)

Another typical phrase *it seems to me* only occurs once, in (128).

- (128) I just started working so *it seems to me like* I have a lot of money, but I'm not sure yet (file00004_ns_3)

There is another usage of *seems* which does not involve a following clause. In (129), *seem* goes with an adjective as a copula verb but further epistemic devices are added.

- (129) [...] *it seems kind of* crammed because there's a lot of stuff.
(file00019_ns_2)

The fixed phrase *there seem to be* is found in two cases in NS, shown in (130) and (131), whereas there is only one case in JLE. In particular, in (131), the speaker makes a contrast using *seems to be* and *is*. The difference between these is important: the speaker is successful in conveying uncertainty by using *seems*, but expressing a fact in the next sentence, *there is a street*.

- (130) And there *seems to be* a lot of uh foliage, meaning bushes and trees and stuff.
(file00020_ns_2)
(131) And there *seems to be* out front of another house. And urm there is a street that[...] (file00020_ns_2)

The most frequently appearing cases are *seem to be* as in (132).

- (132) There's also a velvet rope that er *seems to be blocking* one of the entrances.
(file00001_ns_2)

4.4.2 Summary of comparison

This section compares JLE and NS by focusing on the median frequency of target expressions using the Kruskal Wallis tests and subsequent post hoc tests. The post hoc test results are shown in Table 4.30, and reveal three distinct patterns. Table 4.30 lists verbs which show significantly different frequencies when particular groups are compared.

1. There are significant differences between NS and each JLE group for the expressions *I mean*, *I know*, and *seem*. All JLE groups statistically use these expressions less frequently than the NS group.
2. All JLE groups except Level 9 use the expressions *I think*, *I guess*, and *I don't know* less frequently with statistically significant differences compared to NS.
3. For the expression *I believe*, there are significant differences between NS and both Level 6 and Level 7.

Table 4.30 Summary of the results of the comparison between JLE and NS

Value	Significance between		
	NS- all JLE	NS-Lv8 and lower	NS-Lv7 and lower
High	<i>I know</i>	-	<i>I believe</i>
Median	<i>I mean</i>	<i>I think</i>	-
Low	<i>seem</i>	<i>I guess, I don't know</i>	-

NS use *I know*, *I mean* and *seem(s)* more frequently than JLE across all the proficiency levels. The column *NS-Lv8 and lower* shows that JLE at Level 9 use *I think*, *I guess*, *I don't know* and *I believe* in similar frequency with NS, but there is a statistically significant difference between lower groups and NS. These differences are discussed in more detail in the next section.

4.5 Discussion

This chapter has explored the use of epistemic verb expressions by JLE both in the spoken and written mode. The developmental patterns across the proficiency groups show a non-linear trajectory, as in the pattern of epistemic adverbs discussed in the previous chapter.

In the spoken data, the trajectory has two patterns. Firstly, the advanced group, Level 9, use verbs such as *I guess* and *I believe* most frequently, whereas the intermediate groups Levels 7 and 8 use *I think* and *I mean* more frequently than Level 9. Level 7 use most instances of *I think*, and *seem* and *I know* are most frequently used by Level 8. This pattern is slightly different from the case of epistemic adverbs discussed in Chapter 3. In the case of epistemic adverbs, the only word which is not used most frequently at Levels 8 and 9 is *maybe*. This result suggests that the use of *I mean* is characteristic for the group. A possible reason for this is that lower intermediate group such as Level 7 acquire the skills to use discourse markers such as *I mean* and this knowledge supports their skill to generate utterances; these markers help them to tidy their spoken discourse or provide the time to think, yet they struggle to utilise epistemic forms which allow more subtly nuanced distinctions such as *seem* as an epistemic verb or *possibly* as an epistemic adverb. However, this theory is not consistent with the result of the comparison with native speakers. If more advanced learners use a wider variety of epistemic devices and therefore use a specific item such as *I mean* less frequently, then in turn NS, who have much wider variety of resources, should use *I mean* less frequently than JLE. In fact, as the results show, NS use *I mean* more frequently than JLE.

In the spoken data, the distribution is as follows: high value accounts for 4.9% of total use, median for 70.9%, and low for 24.3%. In contrast, the written data shows 29%, 63.8%, and 7.2% for high, median, and low values, respectively. As stated in Section 2.3, these data sets derive from the different corpora and therefore they cannot necessarily be compared directly. However, the large differences in high value (spoken 4.9% vs. written 29%) or in low value (spoken 24.3% vs. written 7.2%) seem to show a tendency for writers to use assertive expressions more frequently than speaking. For example, this can be seen in the data for *I believe*. Comparing B2 level speakers (Level 9 in spoken and B2 in written), *I believe* is used nearly eight times more in writing (14 vs. 108.5 in relative frequency per 100,000 words). This means that writers might need to express stronger certainty as they are not communicate face to face. This result lends support to the results of Chapter 3, which demonstrates the higher frequency of high value in written data.

The comparison between JLE and NS in this chapter is limited to the spoken data. NS use *I mean*, *I know*, and *seem* more frequently than Levels 6, 7, 8, and 9 of JLE. As for *I mean*, it is most likely that JLE would like to use it more but cannot. This is because it does

not receive sufficient focus at a basic level of language teaching. *I mean* is often categorised as a discourse marker, which functions in a similar way to *well*, *oh*, *you know* and so forth. Discourse markers play an active role in the sentence pragmatically, for example in hedging, but they are semantically and syntactically less significant than other grammatical elements such as main verbs, subject or object nouns. In their research into the use of discourse markers *I mean*, *you know* and *well*, Chino and Mineshima (2016) point out that it is possible that Japanese university learners of English have more opportunity to learn formal, prepared speech which is drafted and practiced in advance, than to practice spontaneous conversation in class. This could mean they are deprived of time to acquire discourse markers. They also point out heavy reliance on *I think*, even though other discourse markers could be replaced as alternatives, and suggest the importance of mastering other markers including *I mean*. In addition, as Beeching (2016) indicates, there are quite a wide variety of uses of *I mean*. It would be beneficial for JLE to learn more about the full range of these uses, rather than just uses to gain time, clarify a statement, or hedge, and ultimately this could improve the communication strategy of learners.

4.6 Conclusion

This chapter has explored the use of epistemic stance verbs by JLE and has presented a complex picture. The increase or decrease across proficiency levels is not steady and there are many reasons for this. One reason is that many of the verbs explored in this chapter are multifunctional. For example, *I mean* is used to convey meaning, clarify an utterance, or to hedge. In addition, many of these verbs are used at the beginning, in the middle, and at the end of sentences. This semantic and syntactic complexity could affect JLE more than NS, since an English as a foreign language setting restricts JLE from immersing themselves in language learning resources and limits their opportunities to use these verbs.

The differences in the communication modes are demonstrated in many ways. The most striking difference is shown by the findings that JLE use *I believe* more frequently in the written mode. This high value form, which conveys certainty, is preferred by writers over speakers, possibly due to writers' awareness of the importance of using high value forms in non-face-to-face communication. This tendency is in line with the results in the previous chapter on epistemic adverbs. In contrast, low and median value forms, such as *I guess* or *I think*, are used not only to convey certainty but also to mitigate propositions, and this mitigating function is seen in intermediate and advanced groups in both modes. *I guess* may be difficult for JLE with lower proficiency to use, as it is harder for them to grasp the less certain meaning of *I guess* compared to *I think* or *I believe*.

It is important to think about verb use alongside use of other epistemic markers. Some important combinations with verbs and adverbs, or verbs and modal verbs are pointed out in this chapter. Analysing combined uses is difficult, because these markers interact in complex ways.

Modal verbs such as *can*, *could*, *may* and *might* play an active role in realising the epistemic modality in many contexts in combination with epistemic verb expressions that I have discussed in this chapter. Hence, modal verbs are examined more closely in Chapter 5.

Chapter 5 Modal verbs

5.1 Introduction

The preceding two chapters focused on epistemic adverbs and verbs. The findings from these chapters show that Japanese Learners of English (JLE) utilise each epistemic device distinctly in spoken and written contexts, exhibiting behaviours that differ from those of native English speakers (NS) in the spoken corpus. This chapter seeks to investigate the usage of modal verbs related to possibility (*can*, *could*, *may*, and *might*) by JLE, comparing their use to the that of NS. Examples (1) to (3) show modal verbs used as epistemic stance markers. In (1), the utterance is mitigated compared to *you are wrong* by both a lexical verb *I think* and a modal verb *might*. Similarly, in (2), the utterance sounds less definite than *there is interference*, and the use of *may* in (3) has the same effect.

(1) I think you *might* be wrong.

(2) Without international collaboration there *could* be interference and general chaos.

(3) Legumes *may* have smaller conversion efficiencies than cereals.

(Biber et al., 1999, p. 973)

The four target modal verbs *can*, *could*, *may*, and *might* are classified as central modals. Semantically, they can be subcategorised into groups representing permission, possibility, and ability (Biber et al., 1999, p. 485). These meanings correspond to deontic use, epistemic use, and dynamic use, respectively. Given that this study's primary focus is on the use of epistemic stance markers, this chapter particularly emphasises the usage of these modal verbs to express possibility. Previous studies generally concur that learners rely on adverbs or lexical verbs to realise epistemic modality. This is because modal verbs have multifunctional meanings, realising deontic use and dynamic use in addition to epistemic use, and this multifunctionality makes it more difficult for learners to integrate modal verbs into their utterances (Fordyce, 2014). Conversely, this means that the use of modal verbs is an important indicator for analysing learners' development of pragmatic competence.

However, it is sometimes challenging to distinguish epistemic use from deontic use, as previous studies have found. Gablasova et al. (2017) do not deal with modal verbs in their study and state that this is because: "the preliminary analysis revealed that (interactive) speech made deontic and epistemic modality difficult to distinguish reliably" (p.621). This primarily stems from two causes: the fuzziness of categorisation, and the high frequency of their occurrences. In the current research, samples from the NICT JLE corpus and EFCAMDAT are classified manually. To address the frequency issue, random sampling is employed where there are too many tokens to analyse in full.

Firstly, categorisation is attempted as below. Examples like (4), which indicate ability, and (5), expressing permission, are straightforward. These are not the target of this study. Example (6) shows epistemic use, which is the target for this study. Therefore, the numbers in the results section show the frequency of this type.

(4) I *can* visit a lot of sh er temples. (file00681_5_1)

(5) *Can* I stay urr clean and beautiful hotel? (file01033_4_3)

(6) They can be cruel, too. (45756_A2_35)

However, (6) may be interpreted as dynamic use, as in *they are able to be cruel*, since the dominant use of *can* by JLE is dynamic meaning. These cases are judged not only from concordance lines but from the context beyond the lines.

Additionally, some scholars such as Huddleston and Pullum (2002) argue that epistemic use of *can* is confined to “non-affirmative contexts” (p. 180). Other literature categorises this type of use, which is called theoretical possibility, as deontic. In contrast, Coates (1995) classifies this type of use as epistemic, and the current study follows Coates in treating it as an epistemic use.

In essence, while this research primarily centres on epistemic modality, this chapter includes borderline examples that might alternatively be interpreted as deontic or dynamic modality. This is justifiable, given the study's main goal: to explore the interlanguage use by JLE, especially in expressing (un)certainty and in interpersonal contexts, for example conveying politeness.

Second, preliminary research indicates that JLE frequently use modal verbs, particularly *can* and *could*, as shown by the raw frequencies listed in Table 5.1 in the NICT JLE corpus and Table 5.2 in the comparable data from EFCAMDAT. These numbers include affirmative use only.

Table 5.1 Raw frequency of modal verbs *can* / *could* in the NICT JLE corpus

Modal verbs	Lv4	Lv5	Lv6	Lv7	Lv8	Lv9	Total
<i>can</i>	1,331	1,033	664	396	315	250	3,989
<i>could</i>	230	269	200	138	112	86	1,035

Table 5.2 Raw frequency of modal verbs *can* / *could* in EFCAMDAT

Modal verbs	A1	A2	B1	B2	C1	Total
<i>can</i>	740	723	854	412	192	2,921
<i>could</i>	31	90	242	134	41	538

The high frequency of modal verbs presents challenges for detailed analysis; therefore, random sampling is conducted for *can* and *could* in both spoken and written data. The procedure is outlined below.

Before random sampling, instances of *can* used as a noun, as seen in examples (7) to (9), a total of 31 tokens, were excluded. These exclusions primarily appear in topic identification (ID) 23 for the CEFR A1 level and ID 36 for A2 in EFCAMDAT, owing to the specifications of the task prompt.

(7) Please buy this list. tomatoes, *a can* of peas, a bag of rice, 3 carrots.

(124982_A1_23)

(8) Five tomatoes, *one can* of peas and some cheese. (9091_A1_23)

(9) There is *a water can* in the kitchen. (119817_A2_36)

The negative form *can not*, which has a space between *can* and *not* such as in (10), poses a difficulty because it is retrieved as an instance of affirmative *can* when searching the corpus data. However, it is separated from affirmative *can* manually and is not included.

(10) Now, we *can not* count on him. (44329_B2_80)

After these processes, random sampling of each of the target items in both spoken and written corpora is conducted to make the analysis more reliable. In the case of *can*, 100 cases

each are extracted by using the *sample_n* function in R. The results are provided in Table 5.3 for the spoken data (NICT JLE corpus) and in Table 5.4 for the written data (EFCAMDAT).

In EFCAMDAT, there are 128 sets of tasks throughout the levels and from the examples of use in each group, the 100 cases of *can* are sampled in equal balance. In addition, the NICT JLE corpus has the groups of six levels, Levels 4 to 9, and has four distinct task stages (interview, description, role-play, and narrative). The samples have been extracted in equal balance. In the event that the occurrence is less than 100, such as tokens of *could* in Level 9 (displayed in Table 5.3), the whole set of examples is included. Table 5.4 shows raw frequency of *could* in the written data and this is not randomly sampled since the average is almost 100 in each group.

Table 5.3 Randomly chosen *can* / *could* in the NICT JLE corpus

Modal verbs	Lv4	Lv5	Lv6	Lv7	Lv8	Lv9	Total
<i>can</i>	100	100	100	100	100	100	600
<i>could</i>	100	100	100	100	100	86	586

Table 5.4 Randomly chosen *can* / *could* in EFCAMDAT

Modal verbs	A1	A2	B1	B2	C1	Total
<i>can</i>	100	100	100	100	100	500
<i>could</i>	31	90	242	134	41	538

The remaining target modal verbs present similar challenges when analysed. These challenges are detailed in the subsequent relevant sections. In addition, to avoid missing important examples of epistemic use due to random sampling, some examples are cited from the original data during qualitative analysis.

Furthermore, since almost all usage of these modals is classified as expressing low value group in the Systemic Functional Linguistics framework, this classification is not used for the analysis in this chapter. Instead, each modal is discussed in turn.

5.1.1 Research sub questions

This chapter explores the following research sub-questions:

1. What is the developmental trajectory of JLE across the groups?
2. How are epistemic stance markers used in the spoken and written data?
3. Is there any difference in the usage patterns of epistemic stance markers between JLE and NS?

In terms of the developmental trajectory of JLE, it is expected that at higher proficiency levels, the frequency of target modal verbs will increase. However, as Chapters 3 on epistemic adverbs and 4 on epistemic verbs demonstrate, the same lexical item can be used distinctively among the groups. It is worth investigating the use of modal verbs among different proficiency groups of JLE and examining different modal verbs such as *can* and *could* individually.

In conversation and in writing, it is also expected that target modal verbs are used differently, as the previous chapters indicate. For instance, *I believe* is rarely used in conversation, yet it is used more frequently by the higher level of JLE in writing.

Finally, a comparison between JLE and NS is conducted. It aims to analyse how different the frequency of modal verbs is in the spoken data. It is also important to examine the difference qualitatively, as the modal verbs are used with a wide variety of meanings,

such as in hypothetical situations, or referring to the present or the past. They are therefore difficult for JLE to use, as demonstrated in literature such as Fordyce (2007).

These questions are addressed in the following order. Section 5.2 presents the results of the spoken data and 5.3 is on written data. Section 5.4 presents a comparison between JLE and NS.

5.2 Results of JLE spoken data analysis

In Section 5.2, the results from the spoken data are presented. First, an overview of the JLE data is provided in 5.2.1. This is followed by detailed analyses of each modal verb, starting with *can* and progressing through *could*, *may*, and *might* in Sections 5.2.2 to 5.2.5, respectively.

5.2.1 Overview of the results in spoken data

Table 5.5 provides the frequency breakdown across the JLE groups. Epistemic or possibility *can* shows limited frequency, as 99% of tokens represent deontic or dynamic use. Epistemic *could* is not seen at all in groups Levels 4 and 5, equivalent to CEFR A2. Limited frequency of 1.2 per 100,000 words is shown in Level 6 and frequency reaches 15.6 in Level 9, or B2 and beyond. *May* and *might* are used in a similar way in epistemic use. However, these modals show different development in the corpus data. In Levels 4 and 6, *may* is more frequently used than *might* and the rest of the groups use *might* more frequently than *may*.

Table 5.5 Frequency breakdown of target modal verbs per each proficiency group

Modal verbs	Lv4	Lv5	Lv6	Lv7	Lv8	Lv9
<i>can</i>	0	0.7	0	0	1.2	3.1
<i>could</i>	0	0	1.2	5.2	9.3	15.6
<i>may</i>	3.9	4.6	11.7	1.9	15.5	14
<i>might</i>	2.6	14.8	6.4	26.4	20.2	37.4

Numbers include both affirmative and negative occurrences.

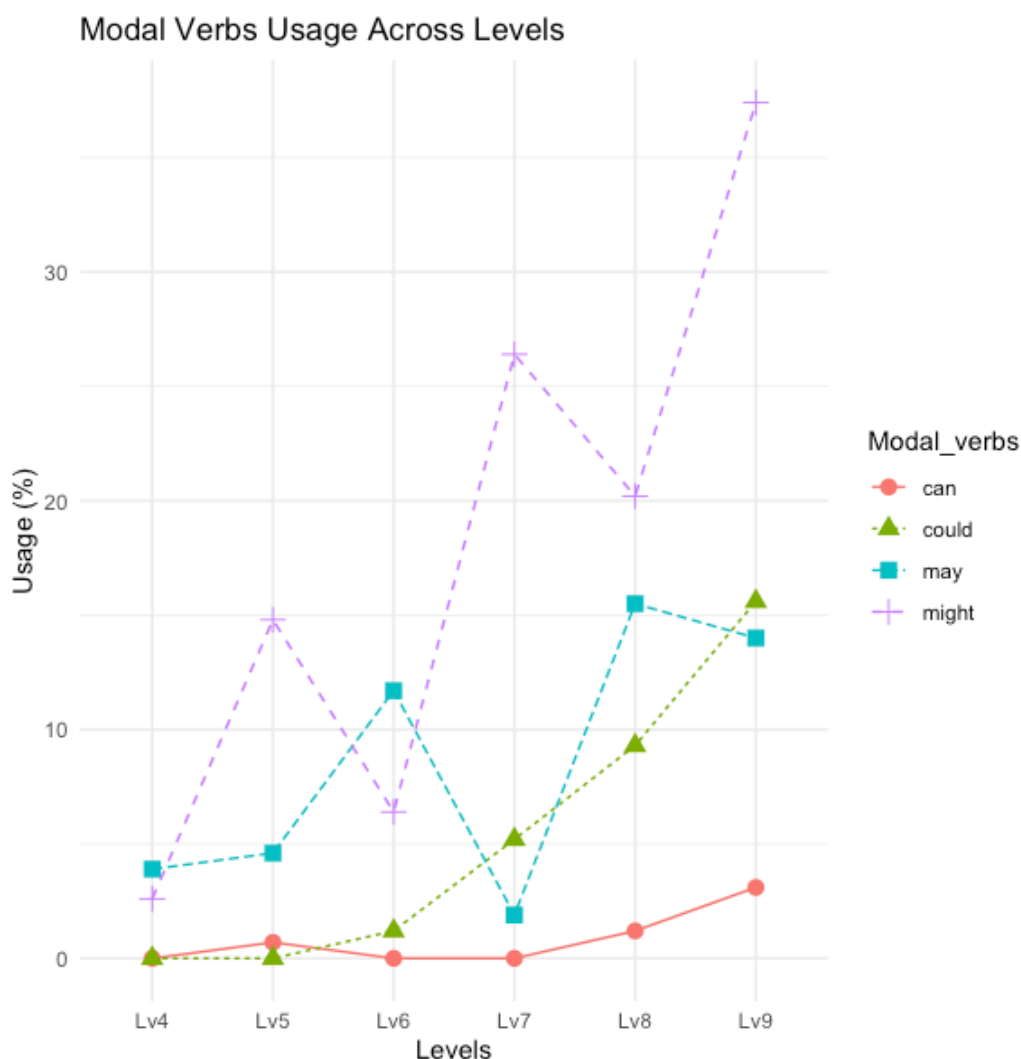


Figure 5.1 Frequency breakdown of target modal verbs per each proficiency group

The line chart in Figure 5.1 displays the frequency of modal verbs as listed in Table 5.5. It reveals that *might* is the most commonly used modal verb among the four. While there are fluctuations, the general trend indicates that as the level increases, the frequency also rises. This chart does not reflect the total frequency but rather epistemic usage only. Thus, it highlights the differences in how JLE use modal verbs as epistemic stance markers. In actuality, when considering the total frequency, the order is: *can*, *could*, and *might*, followed by *may*. From the next section 5.2.2 to 5.2.4, the detail of each of the modal verbs is examined in the order *can*, *could*, *may* and *might*.

5.2.2 JLE uses of *can* in spoken data

Similar to the affirmative case of *can* illustrated in Section 5.1, *can't* is also randomly sampled and a total of 548 examples are examined. Table 5.6 provides the detail.

Table 5.6 Randomly chosen *can* / *could* in the NICT JLE corpus

Modal verbs	Lv4	Lv5	Lv6	Lv7	Lv8	Lv9	Total
<i>can't</i> *	443	292	200	108	68	80	1191
<i>can't</i> for analysis	100	100	100	100	68	80	548

This data includes *can't* (1191 instances) and excludes *cannot* (316) and *can not* (50)

The first line shows the actual number of tokens extracted from the NICT JLE corpus, 1191, and the second line is the number selected randomly. Since there are less than 100 tokens each at Levels 8 and 9, all of these are included for analysis.

600 affirmatives cases are detailed in Table 5.3 above, and 548 negative forms, are analysed in Table 5.6. The results are provided in Table 5.7. *Can* is used epistemically in 5 cases (or 0.43%).

Table 5.7 *Can*: relative frequency per 100,000 words across the proficiency group

Modal verbs	Lv4	Lv5	Lv6	Lv7	Lv8	Lv9
<i>can</i>	0	0	0	0	0	1.6
<i>can't</i>	0	0.7	0	0	1.2	1.6

The dominant uses of *can* express dynamic modality, which shows the ability of the speaker and deontic use, exemplified as in the request phrase *can you* in interrogative form. Within the random samples, there is only one case of *can* conveying epistemic meaning, as seen in the second occurrence of *can* in (11). Outside of the random samples, a limited number of cases are found, such as in (12) to (14).

- (11) [...] to play outside because you *can* always get kidnapped or you know, dangerous things *can* happen. (file01243_9_7)
- (12) I think law is er law *can* be one instrument. (file00766_6_1)
- (13) Well it *can* be very busy and stressful [...] (file01265_7_6)
- (14) Sometimes they are not very kind and sometimes they *can* be mean. (file00252_8_1)

This result demonstrates that JLE use *can* on a limited set of contexts as a device to convey epistemic meaning. One possible reason is that JLE learn the dynamic use of *can* at an early stage in public education, and its applied use, such as in requests (i.e., deontic use), at the next step. These two usages are not semantically separated in their L1 and both can be transferred relatively easily: *Dekiru* (dynamic *can* in Japanese) and *Dekiru?* (in question form or a casual request). However, epistemic meaning is different. Used epistemically, *can* means something close to *it is possible*, and therefore linking the epistemic meaning, i.e., possibility, to the modal verb *can* requires further effort, making it challenging for the majority of JLE.

The negation *can't* is rarely used by JLE as an epistemic form. The results show that 98% of the cases are used with a pronoun such as *I, you, he*, and almost all of them demonstrate deontic use. Epistemic use of *can't* is found with the epistemic verb *believe* in (15). Biber et al. (1999) state that the phrase *I can't believe it* may signify possibility and ability. Here in (15), it is deemed to indicate possibility and therefore epistemic use.

- (15) [...] I just *can't* believe that a mother would treat like her own child that badly. (file01248_9_6)

The following examples (16) to (23) do not show epistemic use. However, attention needs to be paid to these examples. This is because they reveal the understanding of the function of epistemic forms by JLE, discussed in preceding chapters.

In (16) *maybe* plus *can* is a combination that frequently occurs from lower proficiency groups to an advanced level, as in (20). However, as (16) shows, use by the elementary groups is limited to describing uncertainty about what they do. In contrast, the advanced level groups Levels 8 and 9 use it to mitigate utterances when asking the interlocutor something, as

in (17). This may demonstrate their sense of politeness or hedging rather than their diffidence. *Probably* has similar semantics to *maybe* but is used by the higher proficiency group, as discussed in Chapter 3. In the case of (18), it is used to alleviate negativity about the fact that the speaker cannot attend the party held for the speaker. In (19), *actually* is used with *can* in order to add some information to the preceding remark. As a sole example from high value group, example (20) shows a use which conveys certainty about the proposition. The speaker uses *definitely* along with *can say* to intensify their statement of affection.

- (16) [...] so err *maybe* I I *can* feel relaxed at home. (file00751_4_6)
 (17) I *can't*. There's no way I *can not* go to. Urm *maybe* you *can* invite another friend to go for me. (file01256_9_3)
 (18) So urm tomorrow urm *probably* I *can* urm yeah, I *can't* go to the party so ur *could* you allow me [...] (file01209_7_3)
 (19) Yeah, you *can* enjoy the view. And *actually* you *can* feel ur the landscape as you go down the slope. (file01247_8_1)
 (20) And and comparing summer with winter, ah I get I *can definitely* say that I like winter much, much more. (file01188_9_1)

As for epistemic stance verbs discussed in the previous chapter, the following cases are found. In (21), *I think* is added to the speaker's use of *can*. This usage is found in four cases and in all of them, *can* is used along with first pronoun *I* or *we*, not *you*.

- (21) So *I think* I *can* change it to another color. (file01208_7_3)

However, in the case of (22), it is used in the form *you can* in the negative version, *I don't think*. This is also a mitigated utterance that probably sounds softer than just stating that *you cannot have a party*.

- (22) [...] *I don't think* you *can* have a party in Japan. (file01218_9_7)

Similarly, in (23), *I guess* serves to hedge a remark suggesting that they can make an excuse later if something unforeseen happens.

- (23) Well *I guess* I *can* show up in about twenty minutes. But it depends on how my car is [...] (file01218_9_3)

In fact, the utterance continues [*b*] *ut it depends on ...* If the speaker wishes to make a claim, using the pragmalinguistic skill of epistemic stance markers such as *I guess* increases their fluency.

5.2.3 JLE uses of *could* in spoken data

The results for *could* are provided in Table 5.8.

Table 5.8 *Could*: relative frequency per 100,000 words across the proficiency group

Modal verbs	Lv4	Lv5	Lv6	Lv7	Lv8	Lv9
<i>could</i>	0	0	1.2	3.9	9.3	15.6
<i>could not</i>	0	0	0	1.3	0	0

The figures here only include uses of epistemic modality (e.g., possibility), and other uses which are deontic (e.g., permission) or dynamic (e.g., ability) are excluded. However, in

cases where judgement is difficult, if the usage conveys possibility, those cases are included. On this basis, epistemic use accounts for 21 out of 586, or 3.6%.

In the Levels 4 and 5 groups, *could* is not used at all. Starting from Levels 6 and 7 learners, *could* is used to show the uncertainty of the speaker in the phrase *could be*, as in (24) and (25).

- (24) [...] if you know the shop, well well, ah it *could* be ah very useful useful.
(file00328_6_8)
(25) So it *could* be I mean, and then, em er it's not dangerous if you go [...]
(file00273_7_1)

As the proficiency level rises, examples of epistemic use increase. As shown in (24) and (25) above, the majority of cases occur with a copular verb *be*, which accounts for 19 instances out of 21. The remaining of the case is with a verb *happen* in (26). Corresponding to the fact that *could* is frequently used with *be*, the subject is almost always used along with *it* or its elicitation or other pronoun such as *this*, or an inanimate subject such as *the car*. Inanimate and impersonal subjects are tricky for EFL learners including JLE. This is probably another reason that the epistemic use of *could* is sparse.

- (26) So um I had the meeting with him today to talk about the project which *could* happen in the future er related to a XXX04 university. (file01233_8_1)

Example (27) shows a more complex picture of use by JLE. For example, in (27), both *I think* and *could* function to indicate epistemic modality. In addition to these two devices, this example shows negation in the phrase *could be not that*, and this is most likely an alternative to *couldn't be that* or *I don't think it could be*, and allows the speaker to alleviate their utterance. Similarly, *could* is used along with adverb *probably* in (28).

- (27) I think it *could* be not that serious. (file00330_7_3)
(28) But if it *could* be probably at the end of your party. (file01267_9_3)

These data shows the developmental pattern of JLE, where the use of modal verbs, in this case *could*, starts at the intermediate level and combines with epistemic adverbs or verbs at intermediate or higher proficiency levels.

5.2.4 JLE uses of *may* in spoken data

Table 5.9 displays epistemic uses, with 75 cases positive and 3 negative cases, expressed in relative frequency per 100,000 words.

Table 5.9 *May*: relative frequency per 100,000 words across the proficiency group

Modal verbs	Lv4	Lv5	Lv6	Lv7	Lv8	Lv9
<i>may</i>	3.9	4.6	11.7	1.9	15.5	14
<i>may not</i>	0.2	0	0.6	0.9	0	0

Out of 232 cases²⁰, 78 (33.6%) are identified as showing epistemic use. The remaining 151 cases are broken down into 96 cases of deontic use, as in (29): 55 cases that are fragments of *maybe* as in (30), and unclear cases.

²⁰ Originally, *may* appears 265 times. However 33 instances, which refer to the name of the month, are excluded.

- (29) *May* I start? Mm. One day last week, mm I and my father [...] (file00664_4_4)
 (30) Ahh ma *may maybe* er after this time. (file00860_4_1)

The negation *may not* appears four times, and in three of those instances as in (31) to (33), it is used epistemically.

- (31) I *may* study and listen to teachers mm teacher listen to teacher nh but I *may not* er tell the talking students to stop it. (file00202_4_6)
 (32) Er you *may not* know the name of XXX03 Corporation but it's a trading company. (file01040_6_1)
 (33) if I like the design eve uh even if I liked the design, I *may not* like how I look in the dress. (file00902_7_7)

Last but not least, use with *have* is found and refers to past time, but it is only one case in (34). This will be considered in the next section on *might*.

- (34) And there *might* there *may* have been traffic mm jam. (file01231_8_3)

5.2.5 JLE uses of *might* in spoken data

Like *may*, *might* is “dominantly epistemic” (Collins, 2009, p. 108). It is also used less often for theoretical possibility²¹, which is a type of dynamic modality. Table 5.10 shows the frequency of *might* by JLE across the proficiency groups. Compared to the frequency of *may*, provided in Table 5.10, Levels 4 and 6 groups use more *may* in conversation whereas the rest of the group Levels 5, 7, 8 and 9 use *might* more frequently.

Table 5.10 *Might*: relative frequency per 100,000 words across the proficiency group

Modal verbs	Lv4	Lv5	Lv6	Lv7	Lv8	Lv9
<i>might</i>	2.6	13.8	6.4	25.5	20.2	34.3
<i>might not</i>	0	1.1	0	0.9	0	3.1

One reason why advanced JLE users employ *might* more frequently is that they extend its usage to refer to past time with *have*, as seen in the following examples. In (35), the use of *might* allows the speaker to describe an imaginary situation he envisions.

- (35) a man on a scooter completely absorbed in talking on a cell phone thinking he *might* have been talking to his girl friend or something. (file00253_9_4)

This might be advantageous for demonstrating their language proficiency during the speaking examination. Such narrative tasks are not only about describing what is seen in a picture; the ability to convey hypothetical situations can lead to more extended, richer utterances. The self-correction in (36) enables the speaker to enhance the accuracy of his content and the fluency of the conversation.

- (36) I *might* have said U S, but er I worked in the U K. (file00978_9_1)

In example (37), the speaker employs a conditional sentence, leading to a detailed description of how he *might* have acted in that situation.

²¹ Meaning “to have an opportunity to” (Collins, 2009, p. 113)

- (37) If he's talking more than five minutes, um I *might* think about calling the er staff of the train, because it is well-known [...] (file01268_9_8)

Again, this shows skill in using complex structures, and *might* is notably different from *may* in forming hypotheticals. *May* occurs only once in (34) above while *might* with *have* and a past participle occurs eleven times.

Combinations with semi-auxiliaries (Quirk et al., 1985, p. 143) including, *be able to* or *have to* are vital because they enable speakers to convey the notion of more than one kind of modality. (38) and (39) combine deontic and epistemic meaning, and *must* expresses obligation in combination with epistemic *might* as in (40).

- (38) And I said, "Oh yes, I *might* be able to go." (file01209_7_7)
(39) Er as soon as I finish the er company events, I *might* be able to come stop by at the party. (file01267_9_3)
(40) So I want to I *might* have to change it. (file01277_9_3)

These combinations occur in only three cases and only in higher proficiency levels. In addition, the speakers in these examples tend to use modal verbs as epistemic stance markers, which could be evidence of their proficiency level.

As *might* is used more frequently than *may* in affirmative sentences, the negative form of *might*, as in (41) and (42), is also found slightly more frequently than *may*.

- (41) My husband has another plan so he told me in this morning he *might* not be able to with me tonight. (file00284_5_1)
(42) I so mm mm so it is not it *might* not be easy ah it *might* not be noisy to ha to have a lunch, and to have a conversation (file00150_5_2)

Epistemic *might* and *may* are said to differ on a scale of probability, with *might* being lower on the scale (Collins, 2009; Palmer, 2001). Examples (43) and (44) show a JLE elf-correcting from *may* to *might*.

- (43) And it i it *may* it *might* be ho hot day. (file00639_4_2)
(44) And she bought mm sh she *may* she *might* bought er a shoes and clothes. (file00988_4_4)

Conversely, (45) does the opposite. It is possible that the speaker intended to say *maybe* instead of *may*. This is not necessarily evidence that the speaker deliberately chose one of these forms over the other, but it does demonstrate that even at the elementary JLE level in Level 4, speakers are attentive to the degree or likelihood of their propositions and the way different modal verbs can convey this.

- (45) It *might* be ur it *may* be a urr ah house in the suburbs. (file01031_5_2)

Epistemic *might* is compatible with epistemic adverbs and epistemic verbs. For instance, in (46), the speaker starts the utterance with *maybe*, and *might* is used in combination with *probably* in (47). These uses can be seen in the intermediate level such as Level 6, or CEFR B1, but in the advanced group these modals appear to be used more flexibly as in (48).

- (46) *Maybe*, I *might* I *might* do like these these woman, er having a chat.

- (file00006_6_6)
 (47) And *probably* he he *might* broke his one of his legs. (file00199_6_2)
 (48) Or um *maybe* I I *might* have someone something or *probably*, but.
 (file01280_9_3)

Epistemic verbs serve to hedge the speakers' propositions. In (49), the speaker could convey uncertainty solely with the modal verb *might*. However, the utterance is further hedged by preceding *I don't know*. This way, the speaker probably succeeds in conveying their view with appropriate certainty, or it might allow them time to conceive the utterance itself. In this sense, the epistemic device could function as a filler rather than epistemic use. The same can be true in both (50) for *I think* and (51) for *I guess*.

- (49) But ur yeah, but ur *I don't know*, he *might* say the same thing pretty soon.
 (file01243_9_8)
 (50) Mmm *I think* it *might* be a beau beautiful song uh beautiful song *might* be flown.
 (file00150_5_2)
 (51) *I guess* they *might* have already gone now. (file00611_5_5)

In Section 5.2, the use of four modal verbs *can*, *could*, *may*, and *might* in the NICT JLE spoken corpus have been investigated. *Can* is limited in frequency as a device to express the epistemic view of the speaker or possibility. However, findings show the frequent use of modals in combinations with epistemic adverbs e.g., *maybe*, or with epistemic verbs e.g., *I guess*, and with the dynamic *can*. Producing combinations could be an important skill as the use of epistemic devices can adjust the certainty of a proposition. For example in (26) above, the speaker notes *I guess I can show up* and succeeds in conveying the possibility they can make it, while hedging about the risk of being late and breaking the promise.

As for *may* and *might* in epistemic use, *may* is more used by Levels 4 and 6 and *might* is used by Level 5. Overall it can be seen that elementary to lower intermediate JLE use *may* more frequently than *might*, whereas upper intermediate to advanced level JLE (roughly upper B1 to B2 and beyond) relatively clearly prefer *might* to *may*. This can be exemplified in uses with *be able to*, *have to* or *have* to describe the past time or to indicate a conditional. This demonstrates that *might* is the preferred item for JLE to convey epistemic meaning rather than *may*, which is primarily used to ask permission such as in the interrogative form, *May I?*

The examples or phenomena examined in this section all relate to the spoken contexts. In the following section, the same modal verbs are investigated in the written contexts and compared with the spoken data.

5.3. Results of JLE written data analysis

In this section 5.3, the data from EFCAMDAT are examined. An overview is presented in section 5.3.1, followed by further details of each target modal verb: *can* in 5.3.2, *could* in 5.3.3, *may* in 5.3.4 and *might* in 5.3.5.

5.3.1 Overview of the results in written data

The breakdown of the frequency of epistemic stance markers by JLE across the groups A1 to C1 is presented in Table 5.11. The numbers include both affirmative and negative occurrences. Figure 5.2 illustrates the contents of the table in the line plot.

Table 5.11 Frequency breakdown of target modal verbs per each proficiency group

Modal verbs	A1	A2	B1	B2	C1
<i>can</i>	0	1.6	6.6	5.2	0
<i>could</i>	12.6	10.2	24.1	40.1	52.9
<i>may</i>	6.3	11.2	36.8	53.0	38.8
<i>might</i>	2.7	10.7	30.8	53.0	77.6

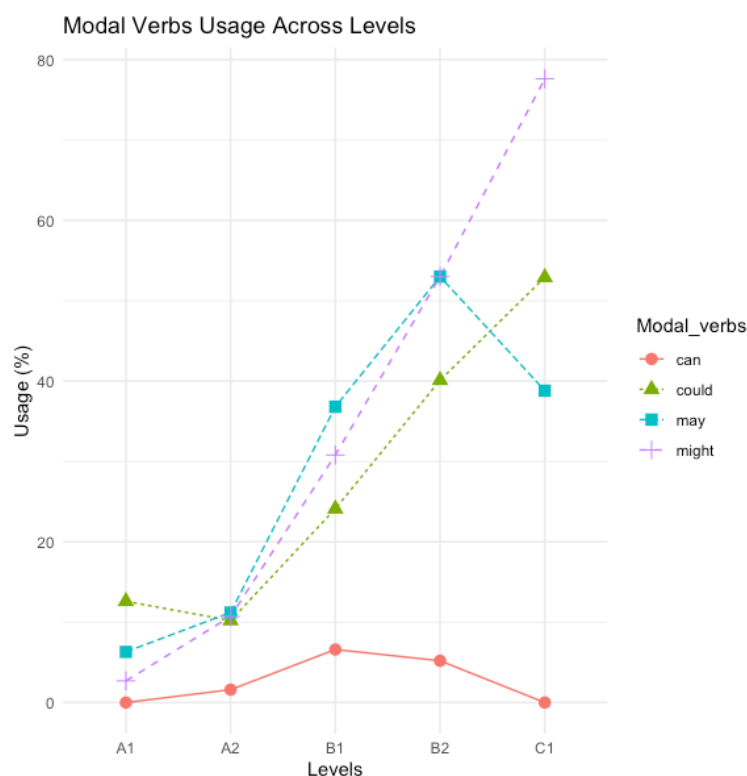


Figure 5.2 Frequency breakdown of target modal verbs in EFCAMDAT

As Figure 5.2 shows, every target modal verb occurs frequently in written contexts compared to spoken ones. This observation suggests that JLE possess knowledge of these modal verbs. This knowledge enables them to use modal verbs in writing when given time, a luxury not often afforded in spontaneous speech. Furthermore, in comparison with earlier studies such as Fordyce (2007), it is evident that JLE employ modal verbs more frequently in general topics in EFCAMDAT than in argumentative or academic essays.

The order of frequency for these modals remains consistent with the spoken data: *might*, *could*, *may* and *can* in that sequence. However, *could* is more prevalent in writing than in speaking. The epistemic or possibility sense of *could* appears even at the elementary CEFR levels of A1 or A2, despite being absent in the spoken data. This frequency rises to 52.9 at the advanced C1 level, which is approximately three times more frequent than the Level 9 in the spoken dataset.

Similarly, the proportion of epistemic *may* is greater in writing than in speech. In many written CEFR levels, *may* parallels *might* and surpasses *could* in frequency, though it sees a decline at the C1 level. *Might* displays the most significant disparity between the A1 and C1 levels. Its frequency at A1 is 2.7, but this rises to 77.6 at C1—an almost 28.7-fold increase. Further details regarding each modal verb, *can*, *could*, *may*, *might* in this order will be explored in subsequent sections.

5.3.2 JLE uses of *can* in written data

In this section, the use of *can* in writing is examined. The choice of *can* follows the pattern seen in the spoken contexts. Table 5.12 displays the data for the relevant sense of *can*, which is selected from affirmative *can* and raw frequency of negation of *can* in EFCAMDAT across the proficiency groups.

Table 5.12 Analysis *can* in EFCAMDAT

Modal verbs	A1	A2	B1	B2	C1	Total
<i>can</i>	100	100	100	100	100	500
<i>can't</i> *	151	409	90	44	5	699

*It includes cannot 58

The results of the analysis show that in a total of 18 cases *can* shows epistemic or express possibility, which is 1.5% of 1199 cases analysed. The breakdown in each proficiency group, normalised to 100,000 tokens, are provided in Table 5.13. First, the use of epistemic *can* is examined, and then combination of epistemic forms with *can* is examined.

Table 5.13 *Can*: relative frequency per 100,000 words across the proficiency group

Modal verbs	A1	A2	B1	B2	C1
<i>can</i>	0	0.5	0.6	5.2	0
<i>cannot</i>	0	1.1	6	0	0

The use of *can* which shows possibility is found with copular verb *be* in (52) and with *happen* in (53). The CEFR A1 and C1 group do not use *can* in this kind of context.

(52) However she *can* be a difficult person to work with since she *cannot*
(138908_B2_80)

(53) [...] tsunami warning tsunami *can* happen after an earthquake occurs under
the ocean. (139154_B1_69)

As for negation, *can't* is used as a supplement of epistemic *must*. An expression, *can't have*, which is provided in the literature as an example of epistemic *can* is not found in these data sets. Instead, the following case in (54) could be regarded as epistemic *can*.

(54) The bad rumors about him are just gossip, they *can't* be true. (51388_B1_56)

In other examples, *can't* is often used with *believe*, which is ambiguous between epistemic and dynamic *can*. In both (55) and (56), the writer uses *must* and it functions to set up a contrast with a statement in the following sentences.

(55) Tom *can't* believe it. However, he *must* agree it. (143445_A2_41)

(56) They look very happy and people who sees the picture *can't* believe that they
divorced. It *must* be a lie! (48165_B1_56)

In terms of combination with other epistemic markers examined in the previous two chapters, *can* is more frequently used with epistemic verbs and less often with epistemic adverbs. For instance, there are no instances of *maybe*, which is primarily used in spoken contexts. Similarly, *actually*, *probably*, *possibly*, *kind/sort of*, and *perhaps* are not found. This aligns with the findings of these chapters, indicating that epistemic verbs are more commonly used in written contexts than epistemic adverbs. Nonetheless, it is important to focus on

individual usage, as this often reveals patterns that add an epistemic perspective into the dynamic use of *can*. For example, in the instances shown in examples (57) and (58), *I believe* appears to reinforce the proposition in the subsequent clause, rather than expressing the writer's uncertainty or diffidence.

(57) *I believe I can* be a great staff for your company. (171704_B2_76)

(58) With your help *I believe* that I *can* persuade the school, particularly the principal to improve the (34190_C1_97)

I think is the second most frequently used phrase, following *I believe*. One distinguishing characteristic of its usage is that only the lower proficiency group employs *I think I can*, as illustrated in example (59). Conversely, *I think you can*, as seen in examples (60) and (61), is more commonly used by the advanced group, especially in contexts where the writer offers advice to the recipient.

(59) [...] although I *can't* play any instruments. *I think I can* play the piano. (3208_A2_28)

(60) *I think you can* enjoy the job, because it meets your requirements. (67378_B2_73)

(61) *I think you can* have a lot of room to reduce your spending on (67983_C1_100)

To summarise, the modal verb *can* denoting possibility is used less frequently than its dynamic counterpart. However, in writing, dynamic *can* is often modified by epistemic verbs such as *I think* and *I believe*, rather than by epistemic adverbs, which are more common in spoken contexts.

5.3.3 JLE uses of *could* in written data

Out of 538 tokens, 119 are counted as epistemic in this study. Table 5.14 displays the breakdown of each proficiency group after standardising to relative frequency per 100,000.

Table 5.14 *Could*: relative frequency per 100,000 words across the proficiency group

Modal verbs	A1	A2	B1	B2	C1
<i>could</i>	12.6	10.2	24.1	40.1	52.9
<i>could not</i>	0	0	0	0	0

There is a big gap between the use of *could* in spoken and written contexts. In the spoken data, Levels 4 and 5 corresponding to CEFR A2 show zero frequency of *could*. The average frequency is 5.2 across Levels 6, 7, and 8 in the spoken data, whereas B1 in the written data is 24.1 in Table 5.14, approximately five times higher. Use at the advanced level is also three times higher: the average of B2 and C1 (46.5 occurrences) in the written data vs. Level 9 (15.6 occurrences) in the spoken data. The negation *could not* occurs 35 times, but there is no usage of epistemic use of negation.

A plausible reason for the increased use of *could* in the written data compared to the spoken data is that having more time to compose allows JLE to more readily use *could* in its epistemic sense. As aforementioned, when writing, learners have the luxury of taking time to consider and apply the appropriate modal verb for their composition, a luxury not often available in spontaneous speech. Additionally, the general topics presented in EFCAMDAT could influence the writers' choices. This is because, many of these topics, or the tasks they require, compel writers to demonstrate certainty, confidence, or personal beliefs. As an example, in one prompt, writers are tasked with explaining why they believe they deserve to

be a candidate for the student council. The possible effects of such tasks on modal verb usage will be discussed in more detail in the next chapter, Chapter 6.

In (62), the writer highlights their own experience of leading groups through club activities and asks readers for their vote.

(62) *I believe I could* show strong leadership, so I *can* assure you that I am the best qualified candidate to lead the student Council. (110098_C1_97)

The sentence inherently conveys an epistemic sense, even without the use of *could*, due to the presence of *I believe*. However, the addition of *could* instead of *can* amplifies this sense because of its preterite form, which often conveys politeness. In this context, the writer may be striving to project humility. In other words, the writer's stance is not due to a lack of certainty or confidence, but rather an effort to maintain a positive face by using appropriate words²². Admittedly, the writer uses *can* later in the same sentence. Yet, *I can assure you that* is a more fixed expression, suggesting that the writer *might* have intentionally avoided using *could* in that instance. In (63), *could* is used along with *I guess* to realise hedged assertion. As discussed in Chapter 4, *I guess* is used by the advanced group most frequently, and *could* is the same. This means that the phrase *I guess ... could* indicates a higher proficiency level. Similar expressions can be seen in (64) where *could* is used along with *I think*.

(63) So, *I guess* the cost *could* be less than or equal to our last product [...]
(29329_C1_103)

(64) [...] is interested in environment these days, *I think* it *could* be a good seller.
(128098_C1_103)

In (65), the writer discusses a job they have identified and asks the reader to consider applying for it. To avoid being too pushy, the writer uses *could*, but *amazing* is emphasised by *absolutely*.

(65) It *could* be absolutely amazing. (50568_B2_73)

In (66), the writer wonders if the recipient themselves. The context shows that this use is not about the ability of the recipient nor about gaining permission.

(66) However, I was wondering if you *could* have enjoyed yourself. Because you didn't look very happy [...] (140948_B1_71)

This is the only case with *have* plus a past participle.

5.3.4 JLE uses of *may* in written data

Out of 484 occurrences of *may*, the following cases are excluded: 277 uses as the name of a month or person, 5 typos or unclear cases, and 13 deontic uses. 189 cases are therefore examined in this section. Table 5.15 provides relative frequency divided into affirmative and negative. Because this is a writing task, *to whom it may concern* or its related expressions are found in 48 cases. Considering these are fixed phrases rather than conveying epistemicity,

²² This could be categorised as a dynamic modal, as it can be interpreted to mean that the writer possesses the capability to demonstrate strong leadership. However, the use of the preterite form gives it an epistemic nuance in my view. Hence, it is referred to as such in this study.

they are eliminated as well. However, if they are counted as a type of epistemic stance, the total use increases to 25.4%.

Table 5.15 *May*: relative frequency per 100,000 words across the proficiency group

Modal verbs	A1	A2	B1	B2	C1
<i>may</i>	6.3	10.7	30.2	49.1	38.8
<i>may not</i>	0	0.5	6.6	3.9	0

In example (67), the writer uses *may* to show epistemic meaning in the first sentence, but immediately after it, *might* is used. Similar usage can be seen in the spoken data, for example in (43), (44) and (45) above. It seems more likely that the writer intends to avoid repetition of the same modal verb rather than paying attention to the different scale of these two modal verbs because they may be used interchangeably from the context.

(67) I worry about that someone *may* be trying to frame him. It *might* affect his [...] (4800_B1_56)

In three cases, including (68), the speaker refer to past time. There is no significant difference compared with the frequency of the same use in the spoken data, which occurs only once.

(68) Dear Sarah, You *may* have heard a rumor that your company's CEO will step (138206_B1_54)

In the final section on modal verbs in the written data below, *might* is examined.

5.3.5 JLE uses of *might* in written data

The behaviour of *might* provided in Table 5.16 shows similarity with *may* in the previous section. For affirmative usage, the A1 group uses *may* twice more often than *might*, and conversely C1 use *might* twice as often as *may*.

Table 5.16 *Might*: relative frequency per 100,000 words across the proficiency group

Modal verbs	A1	A2	B1	B2	C1
<i>might</i>	2.7	10.2	28.4	50.4	74.1
<i>might not</i>	0	0.5	2.4	2.6	3.5

The use of auxiliary verbs *have to* and *be able to* is rather limited, which is similar to the findings from the spoken data. The former occurs once, as in (69), while the latter appears in two cases in (70) and (71), both in negation. However, unlike in the spoken data, lower proficiency JLE do use these two expressions, albeit sparingly. In spoken contexts, this usage tends to be seen more in higher proficiency levels (B1 and B2) or among JLE with overseas experience. For instance, it appears in A2 level, as shown in (70), but this particular JLE has over a year of overseas experience according to the metadata provided in the NICT JLE corpus.

(69) We *might* have to check weather report more. (19793_B1_52)

(70) [...] or you *might* not be able to stop it. (99251_A2_46)

(71) If I have a class, I *might* not be able to go to class several times. (66724_B1_66)

In this section, four modal verbs, *can*, *could*, *may*, and *might* have been examined in the written context. The frequency of *can* used to express epistemic meaning is limited, similar to the spoken data. In contrast, *could* is used more frequently than in the spoken context. This result indicates that some JLE may use modal verbs more when they have additional time to incorporate them into sentences. Both *may* and *might* follow a similar pattern, being used more frequently in the written context and these results are in line with Fordyce (2009). However, the lower proficiency groups A2 and B1, use *might* more in the spoken mode. This could be because *might* is easier for the lower proficiency groups, as *may* is more polyvalent for them and they learn the deontic use of *may* (permission) at an earlier stage of language learning in public education, whereas *might* is taught as a modal verb to convey epistemic meaning. This comparison between the spoken and written data is discussed in more detail in Section 5.5.2, the discussion section.

5.4 Comparison with native speakers of English

In this section, a contrastive analysis between JLE and NS in the spoken contexts is presented. First, the data and the overall distribution of the frequency by NS is examined in 5.4.1. After briefly describing the method in 5.4.2, the results are examined in section 5.4.3.

5.4.1 NS data

As in Chapters 3 and 4, a subset of the NICT JLE corpus is used to investigate the use of modal verbs by native speakers of English. The corpus comprises 96,727 tokens and data from 20 of American English speakers. The distribution of frequency of target modal verbs are provided in Table 5.17 below.

Table 5.17 Frequencies of modal verbs in epistemic use by NS

modal verbs	raw frequency	relative frequency
<i>can</i>	16	16.5
<i>could</i>	59	61.0
<i>may</i>	14	14.5
<i>might</i>	74	76.5

5.4.2 Method

Epistemic *can* is examined qualitatively here, as it does not have sufficient tokens in this data set to conduct a statistical test. For *may* and *might*, the Kruskal-Wallis test and the post hoc tests are used, just as in the previous chapters. However, for *can* and *could*, chi-squared goodness-of-fit tests are employed to test the difference between JLE groups and NS. This is because *could* has been analysed using selected numbers (see Section 5.1). Therefore, testing with median frequency is not feasible. To conduct the chi-squared test appropriately, the frequency of NS is adjusted to per 100 instances randomly selected from all instances of *could*.

For *may* and *might*, as in the previous chapters, a non-parametric test, the Kruskal Wallis test, is applied in order to test the statistical difference among five groups: JLE of Lv6, 7, 8, 9 and NS. This test identifies whether there is a statistically significant difference between these groups. The post hoc tests with Bonferroni adjustment are conducted to make pairwise group comparisons and determine the source of difference. The results are reported with the test statistic (W), p-value, (p) and effect size (r), which is the rank biserial correlation coefficient (Brezina, 2018, pp. 196-197).

5.4.3 Results of comparative study

Can is examined qualitatively as there are not sufficient tokens in this data set to conduct a statistical test. As discussed in Section 5.2.2 on the use of *can* by JLE, *can* is primarily used to describe ability, meaning *be able to*, and this is the case for NS as well. In contrast, the following examples (72) to (77) convey epistemicity in discourse. Example (72) is a hedged assertion using *can* and the adverb *kind of*. Without them, the utterance would be more direct than the speaker intends. As this example shows, using *can* in its epistemic meaning is a useful expression to realise hedged assertions. In (73), the speaker is talking about a dogs which sometimes behaves in a sweet way but sometimes does not. In (74), the speaker explains that it is possible that dogs smell, expressing negative emotions.

- (72) But going bowling with two people *can* be kind of boring. (file00004_ns_8)
 (73) But she she *can* be sweet. (file00007_ns_8)
 (74) Just something I don't like dogs for sometimes dogs *can* smell. They're kind of gross. (file00020_ns_6)
 (75) All right, no, this *can* be fun, "rather than like," (file00013_ns_7)
 (76) Sometimes you *can* be like feel lost, you don't know where to sneeze go. (file00017_ns_1)
 (77) Wow that *can* be joke. Two people walk into a zoo. And they never met each ... (file00020_ns_4)

What examples (72) to (77) have in common is that they describe events that sometimes happen or theoretically could happen, as Collins (2009) describes (p. 102). Therefore, in this context, *sometimes* often appears in the utterances, as in (74) or (76).

The adjusted frequency of *could* is compared between NS and Level 9, NS and Level 8, Level 9 and Level 8 as the frequency of the rest of the groups is low. The results show a significant difference between NS and Level 9 ($p < .001$), and between NS and Level 8 ($p < .001$) with large effects, but not between Level 8 and Level 9 ($p > .05$), as detailed in Table 5.18.

Table 5.18 Results of multiple comparison tests: *could*

comparison	χ^2	p-value	Df	Cramer's V
NS vs. Lv9	20.547	< .001	1	.6226
NS vs. Lv8	25.92	< .001	1	.72
Lv9 vs. Lv8	.52941	.474	1	.1765

Repetition of *I could* found twice, or 0.01% and therefore the repetition is not considered. In JLE's case, the use of *could* tends to involve temporal use, often referring to past time. In contrast, NS use shows a more complex picture, from the description of ability in the past to hypothetical use to make a suggestion in the present. One notable difference from JLE is in the use of past form *could have* with a past participle such as in (78) to (80). Plus, in (78), the omission of the past participle is identified.

- (78) Well I *probably could* have, but I didn't have my cell phone with me, and [...] (file00011_ns_3)
 (79) But still, it *could* have been really dangerous for him. (file00014_ns_4)
 (80) Just nothing worse *could* have happened. (file00010_ns_4)

Although they are examples of dynamic modality, (78) and (79) show a combination of epistemic stance markers when using modal verb *could*. Notably, combination with the adverb *possibly* is frequent, occurring six times such as in (81) and (82). As discussed in Chapter 3, *possibly* is an adverb that is used statistically significantly more frequently by NS than JLE in spoken contexts. Examples (81) and (82) show dynamic or deontic use and this could be because *possibly* tones down the utterance. This is one form of “harmonic combinations²³” (Huddleston & Pullum, 2002, p. 182) that are less frequently used by JLE.

- (81) *I guess*, Japanese which *I guess* that fits the rest of description I *could possibly* say. I can't be like blond hair and blah, blah, blah [...] (file00007_ns_1)
 (82) So I don't understand how you *could* bill me for it, *possibly*. (file00014_ns_3)

A low value marker *I guess* is also used in the same utterance as *could*, and functions to convey epistemic meaning. *I guess* is also used more often by NS, and this is statistically significant compared to the intermediate level of JLE, as examined in Section 4.4. Therefore, example (81) above is a typical use of epistemic stance markers, which is sporadic in the utterances of JLE.

For *may*, as shown in Table 5.19, the Kruskal Wallis test indicates statistically significant difference ($p < .001$, $H(4)$, 46.349) between Levels 6, 7, 8, 9 JLE and NS.

Table 5.19 Comparison of the groups: Kruskal Wallis

Modal verbs	$H(4)$	p -value
<i>may</i>	46.349	< .001

H : test statistic (degree of freedom)

The post hoc tests demonstrate that there are statistically significant differences in the pairs NS-Level 6, NS-Level 7, NS-Level 9 and Level7-Level 8 as provided in Table 5.20. This shows that NS use epistemic *may* more frequently than most of the JLE groups and there is no statistically significant difference among JLE groups except Level 7-Level 8. This can be seen visually from the boxplot illustrated in Figure 5.3 below.

Table 5.20 Group comparison: *may*

Group	p -value	sig.	r
NS-lv6	< .001	***	.75
NS-lv7	< .001	***	.77
NS-lv8	.066		.66
NS-lv9	.013	*	.70
lv6-lv7	1		.53
lv6-lv8	.179		.44
lv6-lv9	1		.48
lv7-lv8	.011	*	.41
lv7-lv9	.313		.45
lv8-lv9	1		.53

< .001 ***, < .01 **, < .05 *

²³ Huddleston & Pullum (2002) mentions *may* and *must* rather than *could*, stating “commonly occur in harmonic combination with an adverb of comparable meaning, with the modal elements simply reinforcing each other” (p.182)

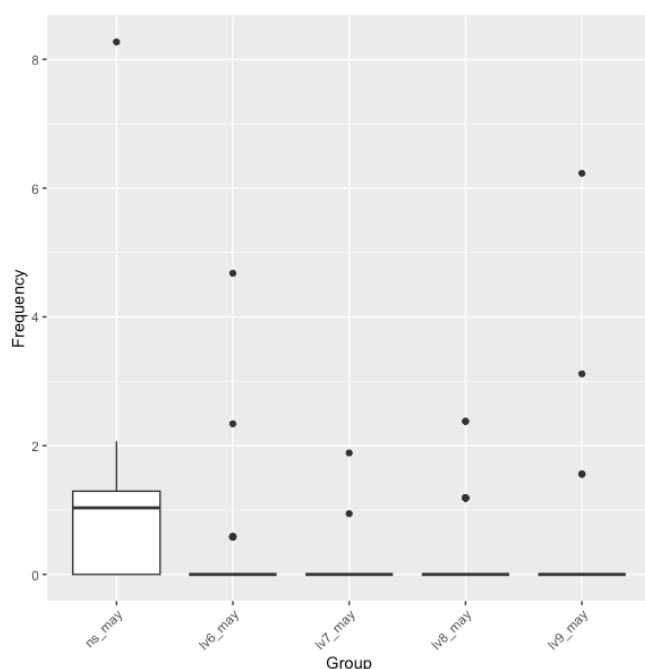


Figure 5.3 Boxplot of may usage: NS vs. JLE Groups

In (83), the speaker repeats *may* seven times in a sequence of conversation. The interviewee is asked to answer a question about what a person does in their free time and responds to it. All the subjects in (83) are the first pronoun *I* and semantically *may* can be interpreted as showing either epistemic or dynamic use.

(83)

In Japan, what do I normally do in my free time. <F>Urm</F> <SC>I try to have thing</SC> <F>urm</F> not that I try to, but I seem to have things scheduled pretty regularly. But if I have free-free time, I *may* drop by some place to go shopping. Not really seriously, but maybe look at some stuff. I *may* <F>ur</F> call a friend, see what they are doing and see if they wanna hang out.

<A><F>Hm</F>.

I *may* get on the internet if I'm at school.

<A><F>Hm</F>.

But at home, I *may* break down and do homework.

<A><nvs>laughter</nvs>

<F>Urm</F> or I *may* go play with the kids. Or I *may* watch T V if I'm at home.

<A><F>Mhm</F>.

<F>Urm</F> sometimes I grab a snack from Starbucks or something. Japan, free time. <.></.> <F>Oh</F> I *may* go to the gym that's at <H pn="school name1">XXX16</H>. And hit the volleyball against the wall. I love volleyball.

<CO>So</CO>.

Table 5.21 Comparison of the groups: Kruskal Wallis

Modal verbs	<i>H</i> (4)	<i>p</i> -value
<i>might</i>	86.549	<.001

H: test statistic (degree of freedom)

For *might*, Table 5.21 above shows the result of the Kruskal Wallis test, which demonstrates there is a statistically significant difference between the JLE and NS groups. Further, the results of the post hoc tests are provided in Table 5.22.

Table 5.22 Group comparison: *might*

Group	<i>p</i> -value	sig.	<i>r</i>
NS-lv6	<.001	***	.94
NS-lv7	<.001	***	.92
NS-lv8	<.001	***	.86
NS-lv9	<.001	***	.79
lv6-lv7	<.001	***	.40
lv6-lv8	.00565	**	.41
lv6-lv9	<.001	***	.37
lv7-lv8	1		.49
lv7-lv9	1		.45
lv8-lv9	1		.44

< .001 ***, < .01 **, < .05 *

There is a statistically significant difference in the median frequency in every group between NS and JLE, for example, between NS and Level 9, ($p < .001$ $r = .79$). This is confirmed visually by the boxplot in Figure 5.4. The result that NS use *might* more frequently than JLE with statistically significant difference is in line with Nakayama (2021).

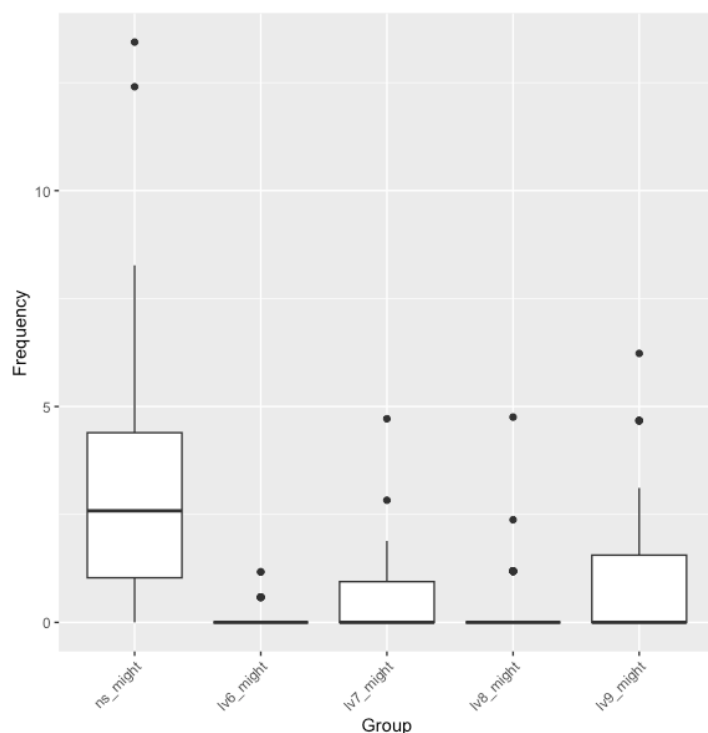


Figure 5.4 Boxplot of *might* usage: NS vs. JLE Groups

Use with an auxiliary verb *be able to* is one distinctive feature of the NS data. In (84), in addition to the interrogative form with *do you think*, the modal verb phrase *might be able to* sounds more polite than *you can*, for example. Similar usage is found in (85). In (86) to (88), the expression is used with the subject, the speaker-self.

- (84) Erm do you think you *might* be able to help me um book a flight and a hotel in one (file00008_ns_3)
- (85) So I wonder if you *might* be able to help me out. (file00015_ns_3)
- (86) Because I *might* be able to read the Japanese, but if I don't know the song, (file00004_ns_5)
- (87) but like I realize that my I'm processing it a lot faster so that I *might* be able to speak a lot easier in Japanese. (file00016_ns_1)
- (88) Do you have any packages or any deals that you offer that I *might* be able to like get in on ? (file00018_ns_3)

Combination with other epistemic devices, such as the adverbs *maybe* and *probably* in (89) and *actually* in (90), or the verb *I think* in (91), shows more variety than in the JLE data. In (89), when asked, the speaker is talking about a hypothetical situation; specifically what they would do if they needed to have students in a noisy class pay attention to them, which is the context of the description task. The speaker uses *maybe*, *I would (I'd)*, *probably*, *just*, and *sort of*, in addition to *might*, perhaps because he is unfamiliar with such a situation.

- (89) And like clapping clapping your hands I di so *maybe* I'd *probably* I *might* do some of that, or I *might* just *sort of* let it slide and [...] (file00013_ns_6)
- (90) I was thinking I was thinking that I *might actually* want to go abroad. (file00015_ns_3)
- (91) So *I think* I *might* just go to New Zealand and rent a car and just drive around, basically (file00018_ns_7)

In this section, the use of target modal verbs by JLE and NS has been compared both quantitatively and qualitatively. Findings show that there is a statistically significant difference between them in the frequencies of *could* and *might*. However, as well as differences of frequency, NS have distinctive usage of modal verbs, often in combination with other epistemic devices such as lexical verbs (e.g., *I guess*) and adverbs (e.g., *possibly*). Information about this kind of combination would be a useful resource for language education.

5.5 Discussion

5.5.1 Trajectory of JLE proficiency

In the spoken data, the modal *could*, indicating possibility, is not utilised at all by elementary level learners in Levels 4 and 5. For these learners, *could* is primarily used as the past tense of *can*, which conveys capability, or for dynamic use. JLE begin to use *could* from Level 6 at a frequency of 0.6, and this reaches 15.6 in Level 9 (B2 and beyond) per 100,000 words. In written data, A1 level learners use *could* at a rate of 12.6 per 100,000 words, whereas B2 and C1 levels use it at rates of 40.1 and 52.9 tokens per 100,000 words, respectively.

The frequency of *may* increases as the proficiency level rises, with an unexpected dip at Level 7. Statistical analysis indicates a significant difference between Levels 7 and 8; however, this is primarily due to the anomalous drop at Level 7. As a result, one should be cautious before concluding that the increase is statistically significant.

For *might*, there is a notable rise from 6.4 in Level 6 to 25.5 in Level 7, and the post hoc test indicates a significant difference ($p < .001$, $r = .40$: median). The frequency continues to climb, reaching 34.3 in Level 9. Nevertheless, no statistically significant differences are observed between Levels 7 and 8 or between Levels 8 and 9.

5.5.2 Speaking vs writing

The most striking difference between the two registers is the higher frequency of epistemic modal verbs by JLE in writing compared to speaking in most cases. For a clearer comparison, the frequencies of closely matched proficiency groups are combined based on the information provided by Table 2.3 in Chapter 2. The results are presented in Table 5.23 below.

Table 5.23 Comparison speaking vs. writing

Modal verbs		A2 (Lv4, 5) elementary		B1 (Lv6, 7, 8) intermediate		B2, C1 (Lv9) advanced
can	s	0.7	s	1.2	s	3.1
	w	1.6	w	6.6	w	5.2
could	s	0	s	15.7	s	15.6
	w	10.2	w	24.1	w	93.0
may	s	8.5	s	29.1	s	14.0
	w	11.2	w	36.8	w	91.8
might	s	17.4	s	53	s	37.4
	w	10.7	w	30.8	w	130.6

s: speaking, w: writing, the numbers show the frequency per 100,000 words

The epistemic modal verbs *can*, *could*, and *may*, are used more frequently in the written data across all the levels. It should be noted that the results for *can* and *could* in the spoken data are analysed with randomly sampled data, as described in the introduction of this chapter; therefore, the results do not reflect all usage of these two modal verbs in the dataset. However, the results still indicate a tendency in JLE use of modal verbs in the written data in these data sets.

These results are in line with Fordyce (2009) except for the occurrences of *might*. In Fordyce (2009), which deals with intermediate JLE data, the number of occurrences of modal verbs in the written data comprising academic essays surpasses that seen in the spoken data. This suggests that for JLE, using epistemic devices is particularly difficult in conversation. However, in the current study, *might* is used more frequently in the spoken data at both elementary and intermediate levels. In the spoken data, it is used more frequently than in the written data at both the elementary (spoken: 17.4 occurrences per 100,000 vs. written: 10.7) and intermediate (spoken: 53 vs. written: 30.8) levels. This pattern reverses at the advanced level, with the spoken frequency being 37.4 and the written frequency rising sharply to 130.6. In general, it is challenging for JLE to use epistemic modal verbs that primarily convey possibility, as these verbs manipulate tense, hypothetical situations, or the degree of possibility.

This result indicates that using *might* could be easier for elementary to intermediate JLE, since *may* is more multifunctional, being used both for deontic purposes (e.g., *May I...?*) and epistemic purposes (e.g., *It may be...*), whereas the central use of *might* is epistemic. This implies that focusing on function is key to learning modal verbs, especially for elementary to intermediate levels, namely B1 and lower proficiency levels.

5.5.3 Comparison with NS

For *could*, the chi-squared test indicates a significant difference in frequency between NS and both Levels 8 and 9 in spoken data. This discrepancy arises from the preterite form *could have* combined with a past participle. This combination requires speakers to grapple with

hypothetical tense, which JLE use less frequently. Furthermore, *could* is often paired with the epistemic adverb *possibly*.

Regarding *may*, a statistically significant difference is observed between NS and Level 9 ($p < .05$, $r = .70$) as well as between Levels 6 and 7. JLE's usage of *may* tends to lean more towards the deontic, as in requests like *May I?*, whereas NS deploys it epistemically, as in *And you say this may go on sale next week?*

For *might*, the Kruskal-Wallis and post hoc tests reveal statistically significant differences across all compared levels, Levels 6, 7, 8, and 9, when set against NS, with a large effect size, e.g., NS-Level 9: $p < .01$, $r = .79$. A notable divergence is the combination of the modal auxiliary *be able to*, as seen in *might be able to*. This phrase used by NS constitutes approximately 6.8% of the raw frequency of *might*, but is seldom observed in JLE. Considering the developmental trajectory, in the early stages of B1, *might* alone should be introduced to learners. By B2, they can be introduced to more native-like phrases such as *might be able to*, broadening their range of expressions.

5.6 Conclusion

This chapter has explored the use of four modal verbs by JLE: *can*, *could*, *may* and *might*. Findings from this study demonstrate that *can* and *could* are not primarily used to convey epistemic meaning. In particular, *can* is not used for this purpose across the proficiency levels. *Could* is also predominantly used by JLE in deontic and dynamic contexts. It is used epistemically by upper intermediate and advanced level groups, and it is more frequently used in the written mode, perhaps because the cognitive load of incorporating it into a sentence may be lighter in writing as JLE have more time.

To convey epistemic meaning, *may* and *might* are used more frequently by JLE than *can* and *could*. Notably, the result that *might* is most frequently used among these four modal verbs in the spoken data indicates that the multifunctionality of *can*, *could*, and *may* is challenging for JLE, especially for elementary to lower intermediate proficiency groups.

The use of NS shows not only overall higher frequency than that of JLE, but different types of hedged assertions such as in phrases like *if you might be able to help me out* in (85) or *going bowling with two people can be kind of boring* in (72). Uses of this kind need to be emphasised more in the classroom and/or textbooks.

This chapter has some limitations, primarily related to the reliability of categorisation and variation in the functions of modal verbs. As stated in the introduction of this chapter, clear-cut categorisation of modal verbs is challenging, even though it is critical to shed light on the use of epistemic modality by learners specifically. Previous studies, therefore, omit modal verbs when dealing with epistemic modality (e.g., Gablasova et al., 2017), or attempt to enhance the reliability of classification by applying an inter-rater reliability test, where multiple raters classify modal verbs into relevant categories and then test the reliability with the kappa coefficient (e.g., Love & Curry, 2021). This study does not employ this method as it is not practicable for this research, but it could be the basis for future studies.

In addition, this study focuses on four modal verbs since these, especially *could*, *might*, and *may*, are known to be used most frequently in spoken contexts (Biber et al., 1999). However, other modal verbs such as *will*, *would*, *should* and *must* also play an active role in conveying epistemic meaning with different certainties in discourse. Therefore, expanding the analysis to include these additional modal verbs would provide a more comprehensive understanding.

In the next chapter, the possible effects of task type, such as role-playing or interviews, on the use of epistemic devices by JLE and NS are analysed. To examine these effects in relation to proficiency levels, a mixed-effects model is employed. Furthermore, the

use of epistemic devices in specific tasks that require speech acts, such as giving advice, is analysed in the written data and compared with NS data collected through an online survey.

Chapter 6 Task effects on the use of epistemic stance markers

6.1 Introduction

In the current research, the data employed to examine use of epistemic devices were collected through certain types of task. These included, interviews (INT), picture description (DES), role playing (RP), and narrative (NAR) tasks for the spoken data. This chapter investigates the impact of these task types on the use of English by Japanese learners of English (JLE). The effects of tasks have been recognised as a significant factor in the context of second language acquisition (SLA). Kormos and Trebits (2012) assert that “task-specific measures of production reveal more precise information about how tasks can direct learners' attention to certain linguistic forms and how individual differences (IDs) may differentiate the ways in which learners can benefit from the manipulation of certain task features” (p. 440). Moreover, these results could be “used to inform pedagogic decisions in materials development and syllabus design” (Kormos & Trebits, 2012, p. 443). Although the current chapter does not measure task performance by learners, focusing on task types facilitates further analysis of the distribution of second language learners' use of epistemic devices.

Suzuki (2022) examines the employment of epistemic stance adverbs within the National Institute of Information and Communications Technology Japanese Learner English (NICT JLE) corpus, revealing that JLE employ epistemic stance adverbs with greater frequency in descriptive tasks than in interview tasks. By contrast, American English native speakers, whose data are derived from a subset of the NICT JLE corpus, demonstrate an inverse trend. This chapter aims to broaden the scope of research into this topic to include the epistemic stance verbs addressed in Chapter 4 and the modal verbs discussed in Chapter 5, thereby scrutinising divergences in patterns both quantitatively and qualitatively.

In this chapter, the method of analysis employed is mixed effects modelling (MEM, Gries, 2021; Pyykönen, 2023; Winter, 2019). MEM is a type of regression modelling, which has the advantage of taking account of multiple variables such as effect of task, proficiency levels, and interaction between these, as well as individual speaker differences, in order to explain the frequency of epistemic stance markers. The frequency of epistemic stance markers examined in the previous three chapters, i.e. adverbs, verbs, and modal verbs (in Chapters 3, 4, and 5 respectively), are computed as relative frequencies per hundred words and used as response (or dependent) variables in the mixed model. By contrast, task type, proficiency level, and the document ID, which correspond to one speaker, are used as predictor (or independent) variables. Task type and proficiency level are included in the model as fixed effects, and the interaction of these two variables are explored as well. In the end, the following model is utilised on the spoken data:

$$ED_FREQ \sim LEVEL * TASK + (1 | DOC_ID)$$

This model indicates that the frequency of epistemic devices is explained by fixed effects such as the proficiency level of JLE and NS, the type of task, and their interaction, as well as by random effects, represented by each speaker indicated by the document ID. The selection of this model is discussed in detail in Chapter 2 on methodology.

The data employed for this study comprise the NICT JLE corpus for spoken analysis and the EFCAMDAT for written analysis, aligning with the corpora presented in preceding chapters. Table 6.1 enumerates the number of tokens and texts from the NICT JLE corpus

utilised in this chapter, with a selection criterion prioritising texts that exceed 100 words to ensure an optimal fit with the established model.

Table 6.1 The subset of the NICT JLE corpus

Task	JLE		NS	
	tokens	texts	tokens	texts
Interview1	312474	1021	15645	20
Description	71978	505	6349	20
Role-play	184170	945	14476	20
Narrative	167348	902	8176	20
Interview2	10135	81	3792	18

This methodology, the model configuration elucidated previously, and the R codes, are all grounded in the prior study by Pyykönen (2023). The spoken data are introduced in this section, and further details pertaining to writing, including tokens, task descriptions, and modelling, are deferred to Section 6.2.5.

The standard speaking test, forming part of the data collection process for the NICT JLE corpus, commences with an interview task, and proceeds to a description task, followed by a roleplay and a narrative task, and concludes with another interview task. To examine the effect of task type on the frequency of epistemic device use, differences between groups are initially presented in Figure 6.1. This is further elaborated in Figure 6.2, which breaks down the information from Figure 6.1 by task, enabling a comparison of the influence of task type. Figure 6.1 presents a box plot that quantifies the use of epistemic devices across various proficiency levels, ranging from Levels 4 to 9 for JLE, and includes NS. On this plot, the x-axis shows the JLE groups and NS, while the y-axis measures frequency. The plot suggests a trend where higher proficiency levels are associated with an increased use of epistemic devices. It is notable that NS exhibit higher frequencies than JLE on average, as indicated by the central line within each box, representing the mean frequency.

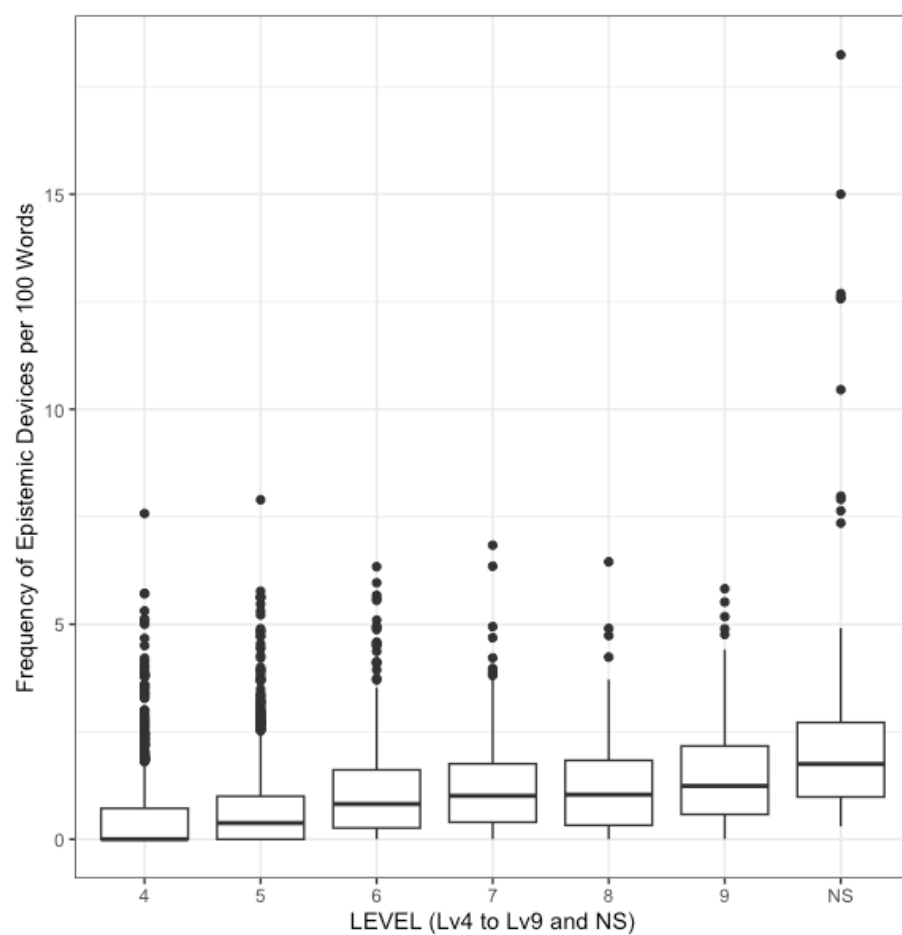


Figure 6.1 Mean frequency of epistemic devices across all the groups

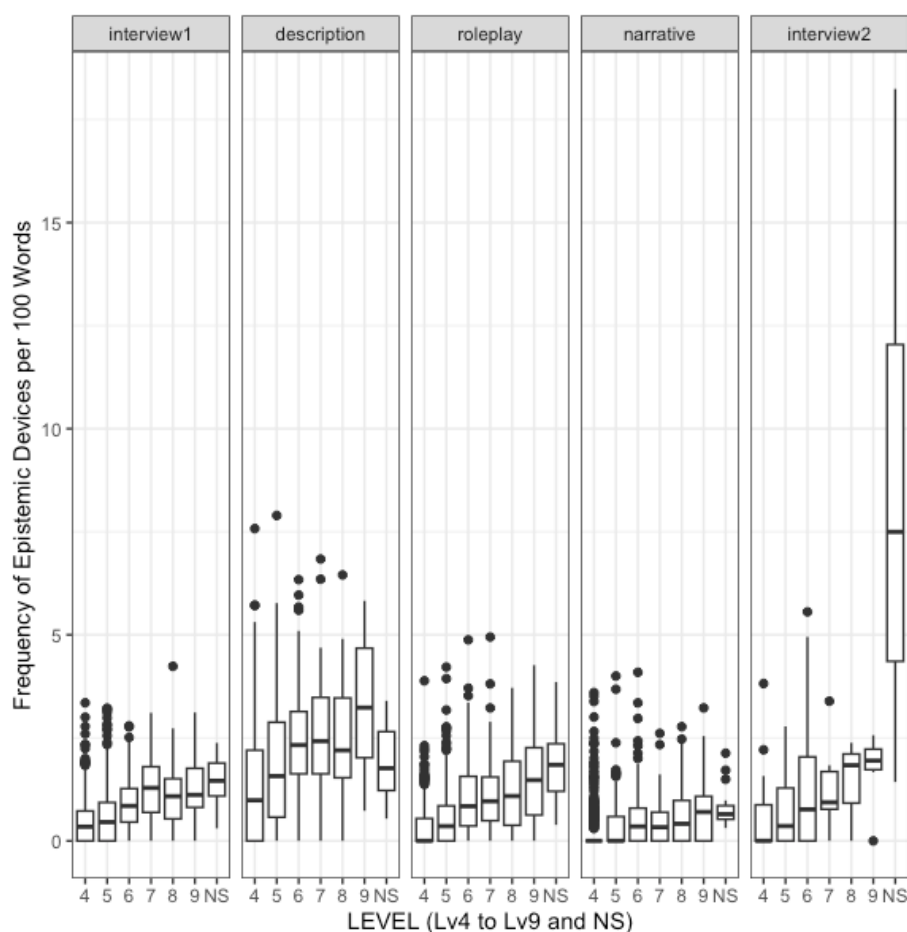


Figure 6.2 Level/Frequency/Task mapping across the board

However, when analysed by task, a different pattern emerges. Figure 6.2 depicts the box plots of epistemic device frequency across various tasks, including interviews (1 and 2), description, roleplay, and narrative. Notably, there are two trends: in the interviews and the roleplay, consistent with the overall trend, the mean frequency of epistemic device use increases with the proficiency level. Conversely, during the description task, NS tend to use epistemic devices less frequently than JLE.

The purpose of this study is to investigate the impact of task type on the frequency of epistemic device usage, particularly in relation to the proficiency levels of JLE, and to draw comparisons with NS. To this end, MEM and other relevant tests are employed.

The subsequent sections will delve into the analysis of the data, with Section 6.2 focusing on spoken discourse, followed by an examination of written data, including the elaboration of writing tasks, as well as the data and model employed in Section 6.3.

6.2 Results of spoken data analysis

6.2.1 Effects of tasks on spoken data

In this section, the findings are delineated. Table 6.2 outlines the coefficients for the fixed effects, with the *Estimate* column providing the predicted frequency of epistemic device usage, and *Std.error* detailing the standard error, which quantifies the expected variability in the estimates.

Table 6.2 Coefficients for the fixed effects

	Estimate	Std.error
--	----------	-----------

(Intercept)	1.44	.07
LEVEL5	.42	.1
LEVEL6	1.02	.12
LEVEL7	1.04	.15
LEVEL8	.94	.18
LEVEL9	1.88	.23
NS	.27	.22
interview1	-0.98	.08
interview2	-0.83	.21
narrative	-1.18	.08
roleplay	-1.14	.08
LEVEL5:interview1	-0.22	.12

Refer to Appendix A for comprehensive results

Figure 6.3 below gives a graphical representation of these findings. The intercept, 1.44, represents the estimated frequency of epistemic devices at Level 4 in the context of the description task. The slope for Level 5, denoted as LEVEL5, is .42, indicating that an increase from Level 4 to Level 5 corresponds to an increment of .42 in the estimated frequency, resulting in 1.86. For other tasks, the frequency for Level 4 is calculated by adding the relevant estimate to the intercept; for instance, the estimated frequency for the interview1 task at Level 4 is .46 ($1.44 - 0.98$). For Level 5 in the same task, the frequency is estimated to be 0.66 after adding the slope to the frequency at Level 4 and then subtracting the slope for interview1, which reflects the deviation from the description task taken as the baseline, and the interaction term LEVEL5:interview1 ($1.44 + 0.42 - 0.98 - 0.22$). These estimates are visually depicted in Figures 6.3 to 6.7 below.

Table 6.3 provides insights into the goodness-of-fit for the model applied to the data. For the fixed effects, the R-squared marginal value suggests that the model accounts for 41.8% of the variance observed in the dependent variable. With the inclusion of random effects, which accounts for individual differences, the model's explanatory power increases to 49.7%, as indicated by the R-squared conditional value. This represents an approximate improvement of 7.9% in the model's ability to describe the observed variability.

Table 6.3 R-squared for the speaking model

R ² marginal	R ² conditional
.4183841	.4968131

Table 6.4 Mixed model Anova table (Type 3 tests, LRT-method)

Variable	Degrees of freedom	Chi-square	p-value
LEVEL	6	349.69 ***	<.001
TASK	4	591.62 ***	<.001
LEVEL:TASK	24	660.07 ***	<.001

Table 6.4 presents the results of an ANOVA Type 3 test conducted using the Likelihood Ratio Test (LRT) method. The results indicate that each of the fixed effects variables (LEVEL, TASK, and the interaction LEVEL:TASK) has a statistically significant impact on the frequency of epistemic devices. Subsequently, which specific tasks have statistically significant differences is examined.

Table 6.5 displays the results of pairwise tests and it indicates there are statistically significant differences except between interview1 and roleplay, description and interview2. The interaction between level and task needs to be considered here (see Appendix B).

Table 6.5 Pairwise Z-ratio test results for differences among tasks

contrast	estimate	SE	z.ratio	p.value
description - interview1	1.2161	0.0696	17.483	<.0001
description - interview2	0.0975	0.1283	0.76	0.9419
description - narrative	1.6954	0.0716	23.686	<.0001
description - roleplay	1.1425	0.0696	16.405	<.0001
interview1 - interview2	-1.1186	0.1237	-9.04	<.0001
interview1 - narrative	0.4793	0.0627	7.643	<.0001
interview1 - roleplay	-0.0736	0.0604	-1.218	0.7408
interview2 - narrative	1.5978	0.125	12.787	<.0001
interview2 - roleplay	1.045	0.1238	8.442	<.0001
narrative - roleplay	-0.5529	0.0628	-8.802	<.0001

Figure 6.3 is the visualisation of the mixed effect model regarding the interview task. The predicted frequency at Level 4 is 0.45 for JLE, increasing to approximately 1.32 by Level 7. Although there are fluctuations at Levels 8 and 9, the frequency for the NS group is higher, at 1.48. The lower and upper lines represent the 95% confidence interval of the predicted frequency.

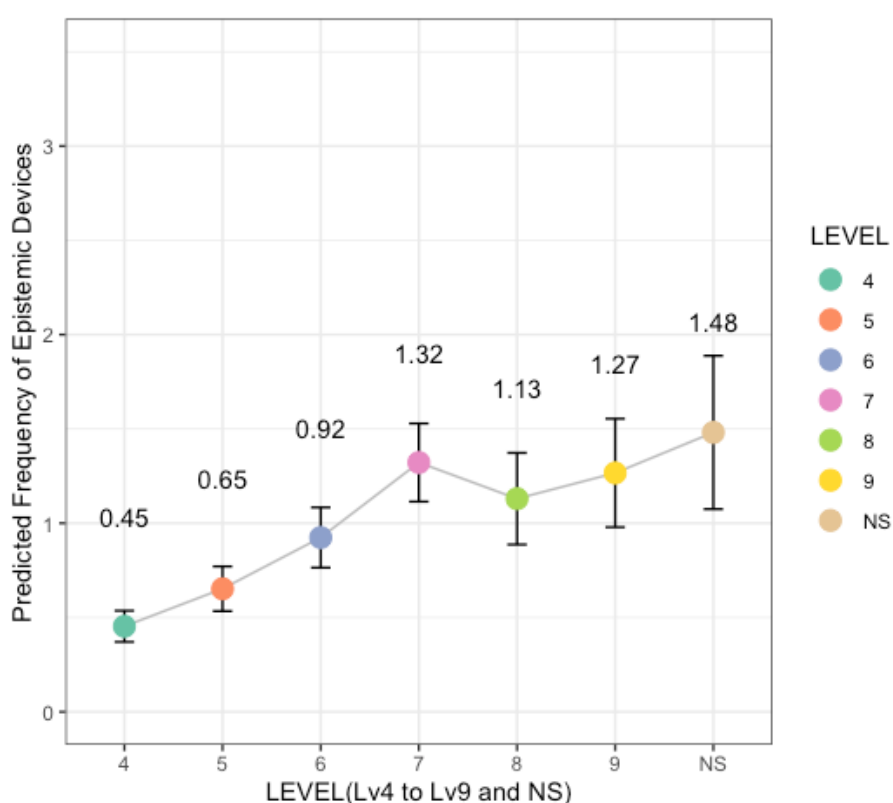


Figure 6.3 Interview1 across the groups

In the interview task, no significant differences are found between JLE of Level 6 and above and NS. Consequently, in terms of frequency of usage, only those with elementary proficiency, specifically Levels 4 and 5, exhibit a significant divergence from NS. Interview1

represents the initial task in the speaking test, during which the interviewer seeks to elicit responses. However, Levels 4 and 5 may face difficulties in speaking itself, which is independent of the use of epistemic stance markers. Other proficiency groups employ epistemic stance markers to facilitate information exchange with the interviewer. An instance of this is the strategic use of the phrase *I mean*, which serves to clarify or expand upon a previous statement. The detailed mapping of expressions commonly used in each task will be discussed in the subsequent section.

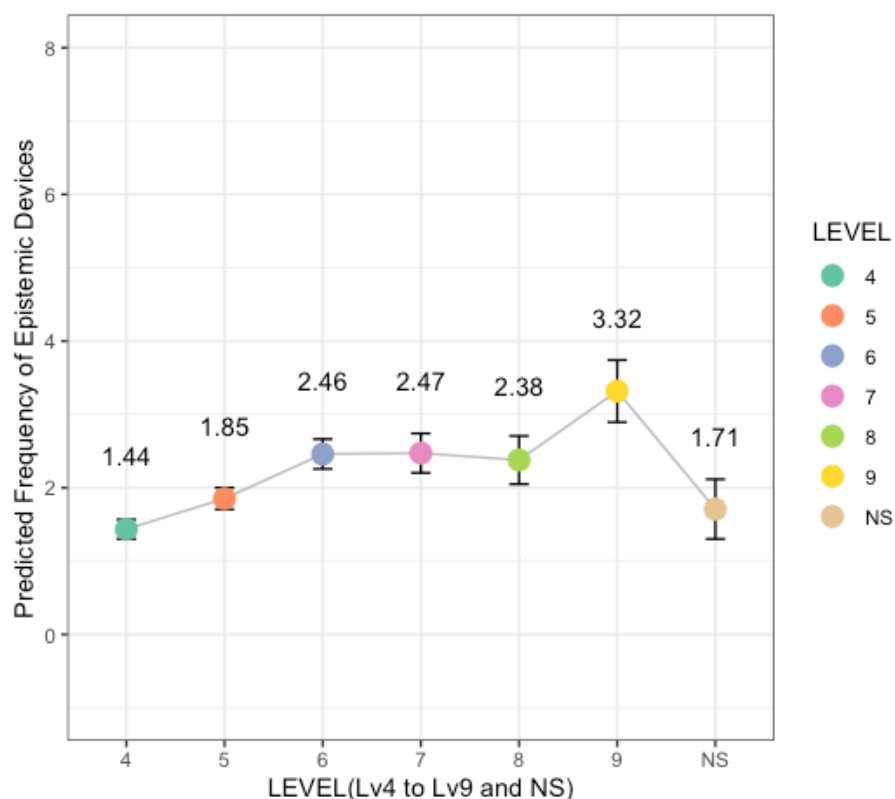


Figure 6.4 Description task, spoken data

In the description task, all the JLE groups, with the exception of Level 4, appear to employ epistemic devices more frequently than NS. In contrast to other tasks, JLE utilise epistemic devices to a greater extent, as the results indicate a significant difference when compared to other tasks such as Interviews 1 and 2, Roleplay, and Narrative. Focusing on within-group differences, there are notable discrepancies in usage between Levels 6, 7, 9, and NS. These findings suggest that, within this task, expressions denoting uncertainty are more favoured by JLE than by NS.

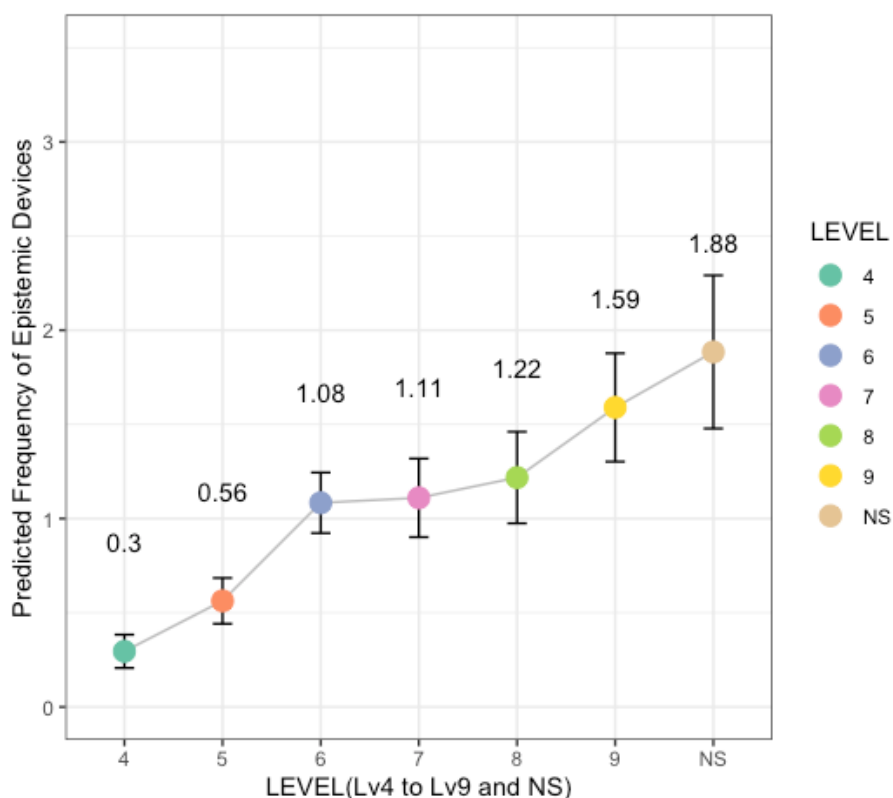


Figure 6.5 Roleplay across the groups

In the roleplay task, NS exhibit the highest estimated frequency of epistemic device usage compared to all JLE groups. However, statistically significant differences are only observed between NS and JLE at Level 7 and below. In other words, variance primarily exists between the intermediate JLE group and NS. This task requires participants to respond to a problematic situation necessitating negotiation, such as requesting a refund from someone who categorically refuses to provide one. Therefore, epistemic stance markers, indicating both certainty and uncertainty, should be beneficial for speakers. The data indicate that the lower to intermediate JLE groups approach the task with infrequent use of these markers, whereas Levels 8 and 9 utilise epistemic devices at the same frequency as NS, with no statistically significant difference observed.

Overall, the use of epistemic devices is comparatively low within the narrative tasks where the examinee is asked to tell a story following the sequence of the pictures on the task card. Level 9 JLE employ more epistemic devices than NS; however, the disparity is not statistically significant. Within this task, a statistically noteworthy difference in frequency is only evident between Levels 4 and 9. This suggests that speakers do not perceive a compelling reason to utilise them extensively in order to complete the task.

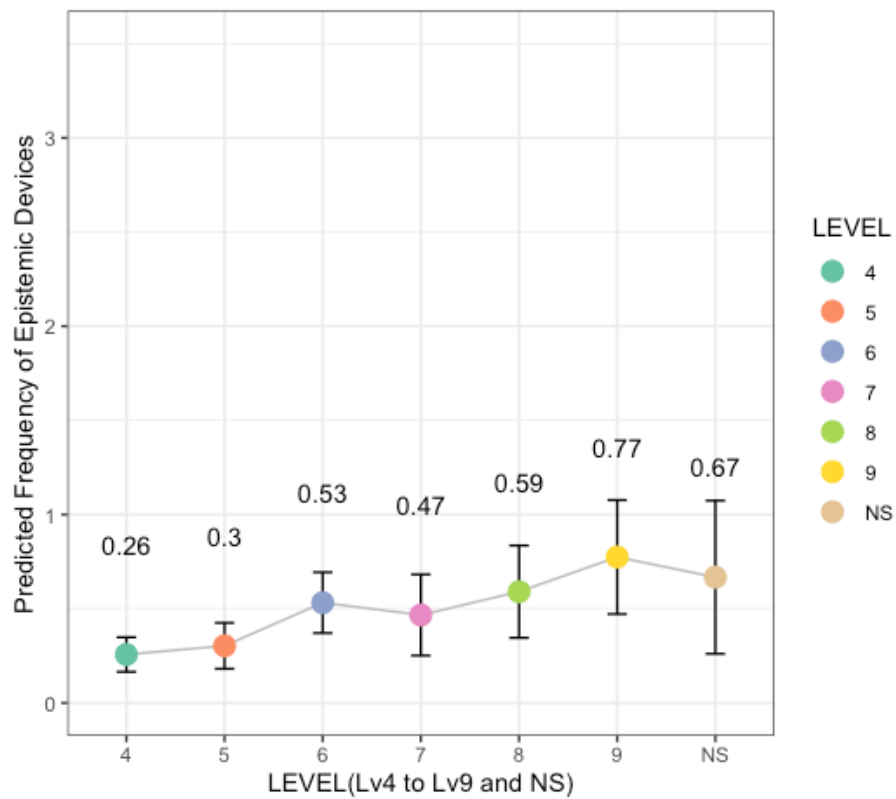


Figure 6.6 Narrative across the groups

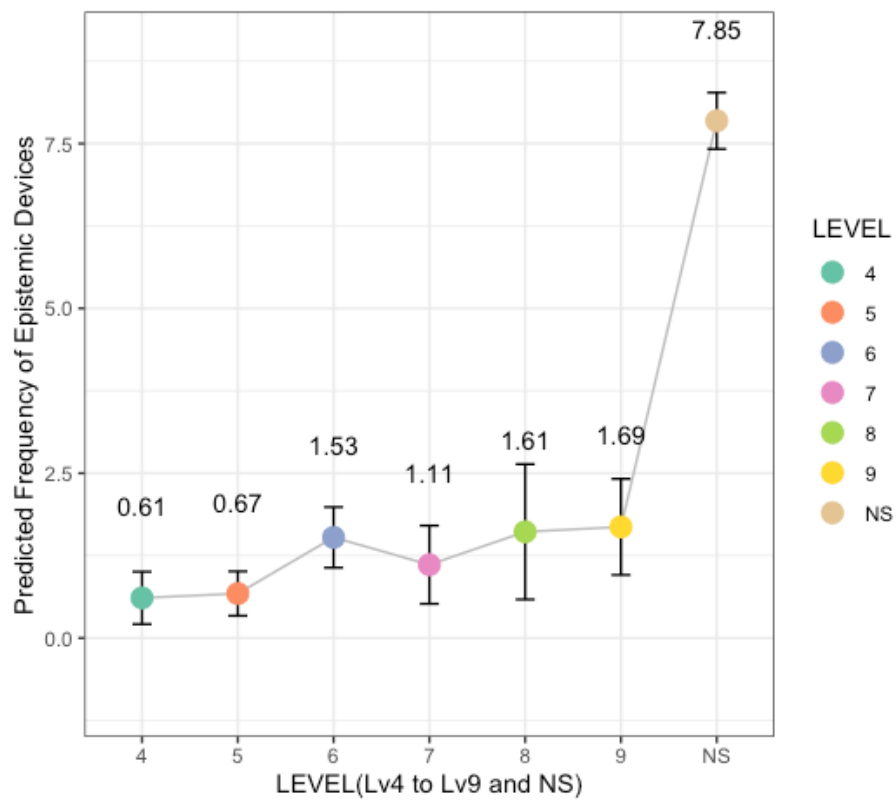


Figure 6.7 Interview2 across the groups

The prediction of interview2 in Figure 6.7 shows wide confidence intervals, as the sample size of this task is small compared to other tasks. Nevertheless, the result suggests a difference between JLE and NS. This could be due to the difference in the purpose of taking the speaking test from which the data were collected, as in the NICT JLE corpus. JLE take the test to have a better score, whereas NS have no similar aim. The difference may affect speakers' language choices throughout the test, yet it is also possible that it is reflected in the final task because NS simply feel more being set free from the exam environment at the end of the test.

The mixed effect model is beneficial for understanding the differences between groups observed thus far. However, an analysis of epistemic devices needs to be further focused on how they are used depending on the task, and consider different kinds of epistemic devices. In the following section, epistemic devices are examined in order of adverbs, verbs, and modal verbs.

6.2.1 Epistemic adverbs in spoken data

The analysis presented in this section explores the distribution of epistemic stance markers across the four tasks, itemised for granularity. The data, which underpin the mixed-effects model, inform the results tabulated in Table 6.6. For the sake of simplicity, data from Interview1 and Interview2 are combined under the label INT in subsequent tables and figures. The figures presented denote the relative frequency of occurrences per 100,000 words. The percentages within the table represent the proportion that each expression constitutes in a given task across all speaker groups.

Table 6.6 Frequency of adverbs across four tasks in spoken data

Epistemic adverbs	INT	%	DES	%	RP	%	NAR	%
maybe	209.9	49	1000.3	80	147.1	51	129.1	63
kind of	37.8	9	20.8	2	12.5	4	7.8	4
actually	142.	33	54.2	4	93.4	32	41.2	20
probably	23.2	5	144.5	12	16.8	6	14.3	7
perhaps	6.2	1	20.8	2	2.2	1	3.6	2
sort of	5.3	1	6.9	1	0.5	0	1.8	1
definitely	0.6	0	0	0	7.1	2	0	0
surely	1.2	0	1.4	0	2.2	1	3.6	2
certainly	1.2	0	0	0	2.2	1	0.6	0
obviously	0.9	0	4.2	0	0.5	0	1.8	1
possibly	0	0	2.8	0	2.2	1	0	0
apparently	0	0	0	0	1.6	1	0	0
for sure	0	0	0	0	1.1	0	0	0

Consistent with the approach taken in Chapter 3, the distribution of epistemic devices categorised within the framework of Systemic Functional Linguistics (Halliday & Matthiessen, 2004) is illustrated in Figure 6.8. This demonstrates that the frequency of median value devices (e.g. *maybe*, *probably*, and *perhaps*) is particularly high, with notable usage in the description task. Among the lower proficiency groups, epistemic devices are most prevalent in the interview task, exemplified by *actually*. Despite an overall lower frequency, the high value group exhibits an increase in usage during the role-playing task with devices such as *definitely*, *surely*, and *certainly*.

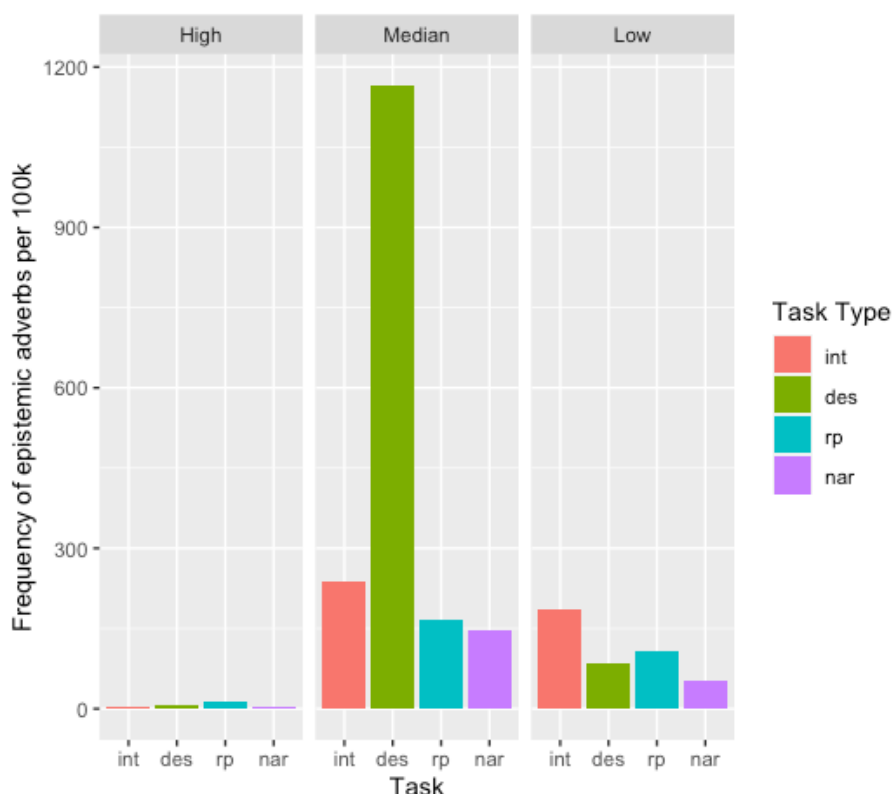


Figure 6.8 Barplot of epistemic adverbs across tasks

During the interview task, examiners endeavour to elicit responses from participants by asking personal questions. The adverbs *maybe* and *actually* are frequently used, constituting 49% and 33% of occurrences, respectively. Notably, *actually* features prominently, as it did in the roleplay task. This prevalence may stem from the task's interactive nature, where speakers strive to clarify their statements such as in (1), especially given that it is their first encounter so there is no shared background. Further, *actually* frequently makes a “contrast with a preceding proposition” (Aijmer, 2013, p. 107) as in (2). Alternatively, in some cases it simply allows time to prepare for speaking, along with other pragmatic markers such as *well* in (3).

- (1) You know, first time for me to live in XXX04. Actually I was born in the XXX05 area, XXX06. Then I moved to XXX07 [...] (file01270_7_INT1²⁴)
- (2) [...] beings learn language and how the mechanism in your brain is working. But urm *actually* I graduated, and I worked first couple of years at advertising company. (file00657_8_INT1)
- (3) Free time? Well. Well a *actually*, er in er from Monday to Friday, I have a work. (file00983_8_INT1)

In the description task, epistemic devices are used more frequently by JLE than by NS and occurrences of *maybe* account for 80% of these devices. In the task, the participants are required to describe the picture illustrating a daily scene such as classroom. In this case, JLE seem to indicate two types of uncertainty by using *maybe*. Firstly, they do guesswork on the

²⁴ The number in the middle indicates the level of JLE. Although the numbers are shown to express tasks in the previous chapters, in this chapter the following acronyms to show task names explicitly. INT1 is the first interview task, DES is the description task, RP is the roleplaying task, NAR is the narrative task, and INT2 is the second interview task.

picture as shown in (4), and NS also do this kind of guess work. JLE also use epistemic devices when trying to determine the appropriate English term, as in (5), and this strategy is less frequent among NS. *kind of* in both (5) and (6) and *sort of* in (6) are used to hedge statements where there is uncertainty about how to describe the picture, indicating the cautious approach of participants.

- (4) [...] this is not a calculator, *I think* this is ah what is this, *maybe* a cell phone. Ah she *might* be calculating by using her ce cellular phone. (file01188_9_DES)
- (5) [...] dress is just looking at him *I mean*, seeing him tasting wine. And *maybe* waiter, I should say, or *I don't know*, someone who I forgot the word, but someone who *actually kind of* recommend really good wine to the guest, [...] (file01207_8_DES)
- (6) er *I think* it's a ski resort and erm there's a lot of i it's *sort of* crowded. (file00253_9_DES)

In addition to *maybe*, *probably* and *perhaps* are both used more frequently in the description task than in other tasks. Both are median value markers. Examples are presented in (7) and (8).

- (7) But, my *perhaps*, she's a writer or a translator or something. *Maybe*, she works at home. (file00325_9_DES)
- (8) *Probably* western foods serve restaurant, *I think*. Then, *seems* bit a high quality restaurant. (file00981_7_DES)

In the roleplaying task, epistemic devices which show probability such as *maybe*, *probably*, and *perhaps* are still used. *Maybe* accounts for 51% of total use, but is less frequent than in the description task. Instead, similarly to the interview task, *actually* accounts for 32% of total use. The adverb *actually* is polysemous as discussed above and in Chapter 3, and it could be used due to the nature of negotiation, where the speaker explains a requirement that is not easy to express. In these contexts, “[a]ctually in conversation is associated with hedging and apologising. It can convey that something is unexpected, that it is surprising or newsworthy, or that is undesirable and problematic” (Aijmer, 2013, p. 107). The majority of uses are sentence initial, yet it is used at the end position as well as in (8). From the perspective of the task effect, roleplaying is an interactive task and as in the interview task, *actually* is frequently used to make a contrast with the previous remark in the phrase *but actually*. This is seen in (9), indicating a difference in function from (2) above in the interview task.

- (8) Well er I I'm in trouble, *actually*. Er. I missed my train. (file00983_8_RP)
- (9) Uh-huh er but er er *actually*, I don't like the one I bought, er so I er don't like [...] (file01042_5_RP)

It should be noted that in the roleplaying task, high value items are used most frequently. For instance, *definitely* is more used than in any other task even though the total occurrence is not high, at 2%. In (10), the speaker assures the opponent that s/he will come to the party next time. This party has been planned for the speaker, yet the speaker cannot join it due to their work. Thus, the pressure may require the speaker to make a promise with a strong adverb such as *definitely*. In this context, it

could be said that these tasks prompt the use of particular markers. Additionally, (11) depicts another use of *definitely* to convey the strong demand of the speaker.

- (10) [...] cannot this time, I cannot escape this work. So, sorry, I *definitely* join the next party. (file00611_5_RP)
(11) [...] if it's not a sale, umm you can have it back, so I *definitely* want the money back. Could you talk to someone in your shop? (file00966_7_RP)

Similarly, *surely* in (12) to (14) and *apparently* in (15) have the similar purpose to convey strong demand for (12) and (13), and determination in (14). *Apparently* is used only in this task.

- (12) But *actually*, this clothes is *surely* bought by me here. (file00035_6_RP)
(13) [...], so *maybe* erm if there is another party you have, erm I'll *surely* like you invite me again. (file00760_8_RP)
(14) [...], I'd like you to invite me again. So, next time, *surely* I will go. (file00342_7_RP)
(15) [...] more than ten years and *I do know* the er dog's personality. And *apparently* this dog doesn't belong to my house. (file01279_9_RP)

This type of adverb to convey certainty shows increased use in the roleplaying task because the speaker is required to negotiate some situation, such as returning of the shopping goods they bought or asking for a refund (which is refused). In addition, as these roleplaying tasks are the imaginary situations, the situation might prompt the speaker to use rather strong epistemic stance markers, compared to the interview where there is more opportunities to talk about themselves²⁵.

For the narrative task, from the point of frequency, there is no notable pattern as many of the epistemic adverbs in the list is less used compared to the other three tasks. In the case of emphasising the situation the speaker is describing, *surely* is used as in (16) and (17)

- (16) we we were lis we were listening uhm the strange voice. But uhm he *surely* uhm listened some voice. We researched uhm uhm the resource of the voice. (file00396_4_NAR)
(17) Because I *surely* hm I *surely* communicate with father. And I *surely* eat I *surely* ate too (file00549_4_NAR)

6.2.2 Epistemic verbs in spoken data

The results of the descriptive statistical analysis of epistemic verbs are presented in Table 6.7, revealing distinctive patterns. The phrase *I think* is predominantly employed in the description and interview tasks, which may align with the JLE's marked preference for *maybe*, despite *maybe* being more prevalent in the description task. The expression *I know* is principally used in its negated form *I don't know* across all tasks. However, in the role-playing task, the affirmative *I know* is more frequently utilised than in other tasks. This is

²⁵ The tendency for JLE to use high value items in relation to some type of speech act, such as persuading rather than responding to questions or describing themselves, is found across the data. For instance, *definitely* is found in (35) to (37) and *I believe* in (49) and (50). In the cases of (49) and (50), *I believe* is used to persuade a reader while the writer talks about him- or herself.

because *I know* is frequently used preceding a request such as a refund, where a speaker attempts to show their understanding of the interlocutor as discussed in Section 4.2.2. The separation of *I don't know* from *I know* in the table is made to show this characteristic pattern observed in the roleplaying task, where the affirmative form is more common than the negative, in contrast to the other tasks. For the sake of simplicity, the remaining verbs in this table are shown in a single row including negation. Affirmative forms account for majority of them in frequencies.

Table 6.7 Frequency of verbs across four tasks in spoken data

Epistemic verbs	INT	%	DES	%	RP	%	NAR	%
I think	278.7	58	822.5	55	191.7	47	81.3	42
I believe	2.8	1	6.9	0	2.7	1	1.2	1
I know	14.3	3	5.6	0	63.0	15	2.4	1
I don't know	105.1	22	176.4	12	79.3	19	35.3	18
I mean	52.1	11	32.0	2	47.8	12	21.5	11
I guess	21.7	5	116.7	8	14.7	4	12.5	6
seem	5.9	1	332.0	22	10.3	3	40.0	21

Figure 6.9 visualises the data with each value plotted to indicate the frequency of language expressions categorised as high, medium, and low. High frequency includes expressions of certainty such as *I believe* and *I know*. The median value accounts for the largest proportion, encompassing expressions like *I think* and *I mean*. In the low category, expressions of uncertainty such as *I guess* and *I don't know* are reflected, observed in the description task. As in Chapter 4, the term *seem* is typically used in various forms without the subject pronoun *I* and is therefore not included in this graph.

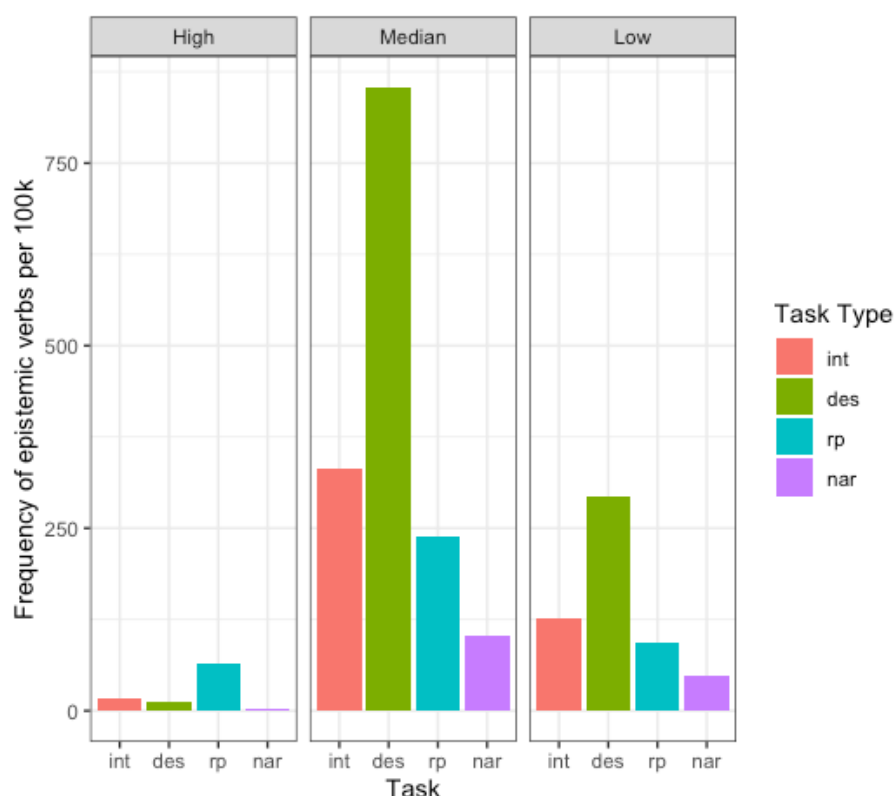


Figure 6.9 Frequency of epistemic verbs across SFL values and tasks

In the interview task, *I think* in median value is used more prevalently, accounting for 58%, compared to the description task, at 55%. Additionally, *I mean* is utilised more frequently in the interview task such as in (18) than in the description task. Expressions indicating lower certainty, such as *I don't know*, constitute a larger proportion of the data, accounting for 22%, more than in any other tasks. The data already illustrate the distinctive nature of the interview task, where speakers engage in conversation, often hedging or elaborating on their statements. For example, the use of *I don't know* serves to avoid definitive descriptions, particularly with English expressions they are uncertain about, as demonstrated in (19) or (20).

- (18) [...] er I have to deal with many things ah *I mean* double. (file01077_6_INT)
 (19) Uhm I belong to I belong to urr English English *I don't I don't know* exactly the English name, English course, urr grade three ur third grade. (file00293_4_INT)
 (20) *I don't know* how to say that in English exactly. (file00652_8_INT)

In the description task, expressions such as *I think*, *I believe*, *I don't know*, *I guess*, and *seem* are used with greater frequency compared to other tasks. It is noteworthy that *I guess* and *seem* represent a higher proportion of total use of epistemic verbs than in other tasks, with 8% and 22% respectively, surpassing their usage in other tasks. Examples of these expressions are found in (21) and (22).

- (21) So she doesn't have so much experience of teaching. And *maybe* she has some trouble of managing the students, *I guess*. (file01273_9_DES)
 (22) And then er *I don't know* why she has a typewriter next to computer. *Maybe* she use both. And then er it's, *I guess*, nine o'clock. (file01280_9_DES)

In the description task there is a significant reliance on the use of *seem*. In addition to the pattern of *seem* with an adjective in (23), the constructions *it seems* and *seems to be* in (24), as well as *seems like* in (25), are frequently employed.

- (23) *Probably* western foods serve restaurant, *I think*. Then, *seems* bit a high quality restaurant. (file00981_7_DES)
 (24) *It seems* class doesn't work at all. Hmm. Only one student *seems* to be listening to her. (file00249_7_DES)
 (25) Please er please please permit it. Err *I know* it's but er I mm I already er nantendakke (*how can I say?* in Japanese) pay er much money for the (file00056_4_RP)

In addition, it seems important to focus on the increase in use of *seem* in the narrative task, even though the narrative is the task where epistemic devices occur at the lowest frequency. The speaker is not required to describe the picture with as much speculation as in the description task as they can generate their imaginary narration in the narrative task. However, the test gives the participants a prompt in the form of a picture to support their scenario.

- (26) They the rider of the bike was accusing *seems* to be eh accuding accusing er the rider of the automobile because of the er (file00325_9_NAR)
 (27) [...] the guy was with cellar phone cell phone er talking to er his girlfriend, it *seems*. (file01269_8_NAR)

Table 6.8 presents the distribution of different modal verbs. In the context of the interview task, a modal verb *may* and an adverb *maybe* appear with equal frequency. In example (28), the speaker deliberately refrains from giving specific details about their business trip concerning both time and location. This demonstrates the utility of these epistemic markers in communicating uncertainty.

Table 6.8 Frequency of modal verbs across four tasks in spoken data

Modal verbs	INT	%	DES	%	RP	%	NAR	%
could	1.2	8	4.2	7	3.8	21	1.2	9
may	7.1	46	15.3	24	5.4	30	3.0	22
might	7.1	46	43.1	69	8.7	49	9.6	70

(28) Not particularly but *maybe* in this summer, mm I I *may* visit England through my job. (file01236_8_INT1)

In the description task, roleplaying task, and narrative task, JLE use more *might* than *may* exemplified in (29) to (33). It could be the case that JLE prefer *might* for conveying possibility as *may* is more polyvalent, e.g. *may* can be used to express either permission or possibility and is therefore difficult to use. Additionally, by using combinations with *maybe* as in (30) and (31), these speakers succeed in expanding their talk, stating possibility rather than act.

(29) And the lady looks his wife, and this is this *might* be some memorial days like ur marriage or birthday or Christmas or year end party (file00617_5_DES)

(30) [...] ah what is this, *maybe* a cell phone. Ah she *might* be calculating by using her ce cellular phone or she *might* be checking her e-mail (file01188_9_DES)

(31) And Mr. Suzuki er went almost crazy, because he thought it *might* crash his bag. *Maybe* er something important was in his bag. (file00255_7_NAR)

(32) Then he suggested her that we *might* have friend that can keep the cat for them, so she took the box [...] (file01113_7_NAR)

(33) And er he was with me and I I told him that this *could* be a bit small. So I want to I *might* have to change it (file01277_9_RP)

6.3 Results of written data analysis

6.3.1 Effects of tasks on written data

This section examines the writing data derived from a subset of the EFCAMDAT, which encompasses a total of 128 topics. For the purposes of this research, the topics have been classified into three categories: descriptive task, narrative task, and speech act task. Table 6.9 presents examples of each category.

Table 6.9 General information of EFCAMDAT

Task	Tokens	Texts
Descriptive	80132	599
Narrative	15090	112
Speech act	41616	329

In analysing the writing data, mixed-effects modelling (MEM) is employed, analogous to the approach taken with the speaking data. This will be explored in further detail in the subsequent section. It should be noted, however, that since EFCAMDAT comprises learner

data, only data from Japanese learners of English (JLE) are included in the model. For comparative analysis, data from native British English speakers have been collated using an online survey. The specifics of this native speaker (NS) data will be discussed in Section 6.3.

Figure 6.10 shows a summary of the frequency of epistemic devices across these three tasks per CEFR. The mean frequency is similar in the descriptive and speech act tasks but different in the narrative task, where epistemic devices are less frequent. However, the breakdown per CEFR illustrates a tendency for epistemic devices to be used primarily across the B2 and C1 learners in the speech act task.

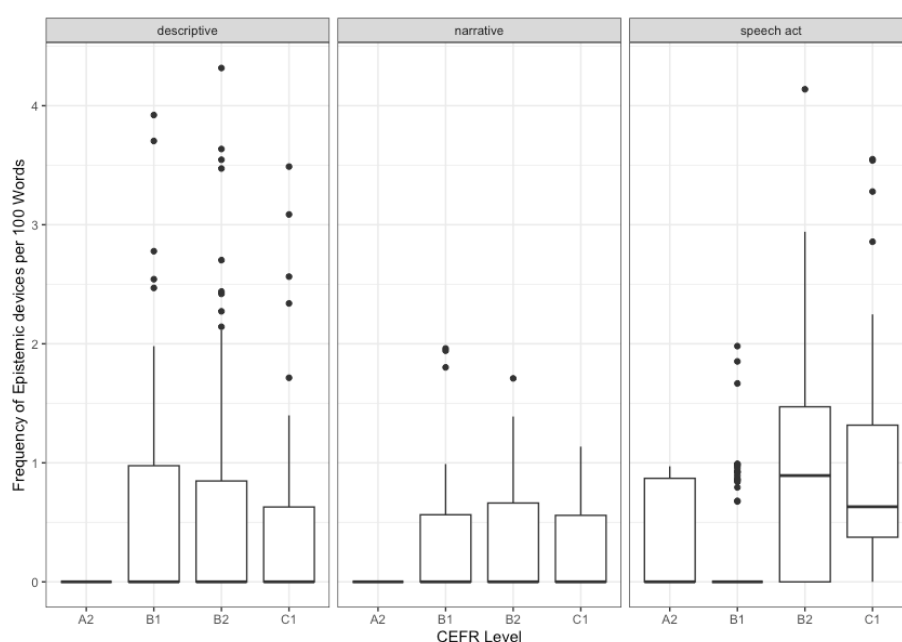


Figure 6.10 Boxplot of tasks in EFCAMDAT

The model fitted on the data is as follows: $ED_FREQ \sim CEFR * TASK + (1 | LEARNER_ID)$. Just as with the speaking model, this formula is to estimate frequency of epistemic devices by fixed effects, which comprise the proficiency level of JLE, task type and their interaction as well as by random effect of individual learners. The model selection is made by considering various factors or R-squared ratio as discussed in Chapter 2. Table 6.10 shows the coefficients for the fixed effects.

Table 6.10 Coefficients for the fixed effects

	Estimate	Std.error
(Intercept)	0	.25
TASKnarrative	0	.41
TASKspeech act	.31	.35
CEFRB1	.57	.26
CEFRB2	.47	.25
CEFRC1	.47	.26
TASKnarrative:CEFRB1	-0.26	.42
TASKspeech act:CEFRB1	-0.68	.36
TASKnarrative:CEFRB2	-0.2	.42
TASKspeech act:CEFRB2	.18	.35
TASKnarrative:CEFRC1	-0.24	.45
TASKspeech act:CEFRC1	.18	.37

Table 6.11 R-square of the writing model

R ² marginal	R ² conditional
.1084627	.1105836

R-square marginal and conditional is respectively displayed in Table 6.11. The model explains about 11.1% including the random effects.

Table 6.12 Mixed model Anova (Type 3 tests, LRT-method, writing)

Variable	Degrees of freedom	Chi-square	p-value
TASK	2	12.67 **	.002
CEFR	3	16.43 ***	<.001
TASK:CEFR	6	61.23 ***	<.001

The results of maximum likelihood tests show the statistical difference between TASKs, CEFR, and the interaction between task and proficiency level as provided in Table 6.12. Additionally, the post-hoc test suggests there is statistically significant difference between the speech act task and the other two tasks as shown in Table 6.13. In other words, in the speech act task, epistemic devices can be expected to be used more frequently than in the other two tasks. As a general tendency, it could be said that writing shows a different pattern from the speech as JLE use more epistemic devices in the descriptive task than in the speaking test. Admittedly, the direct comparison of the corpora is not feasible, yet the speech act task in this study is closer to the roleplaying task in the speaking corpus. Therefore, there seems to be a different pattern for JLE to use epistemic devices. This, however, varies with the proficiency level, as is visualised in Figures 6.11 to 6.13 below. The detail of the interaction between CEFR level and task is examined again in relation to speaking tasks or native speakers of English in the discussion section in 6.5.

Table 6.13 Pairwise test²⁶

contrast	estimate	SE	df	t.ratio	p.value
descriptive - narrative	.173	.1198	1052	1.441	.3200
descriptive - speech act	-.232	.0968	1051	-2.396	.0442
narrative - speech act	-.405	.1202	1045	-3.365	.0023

²⁶ Results are averaged over the levels of: CEFR

Degrees-of-freedom method: kenward-roger

P value adjustment: tukey method for comparing a family of 3 estimates

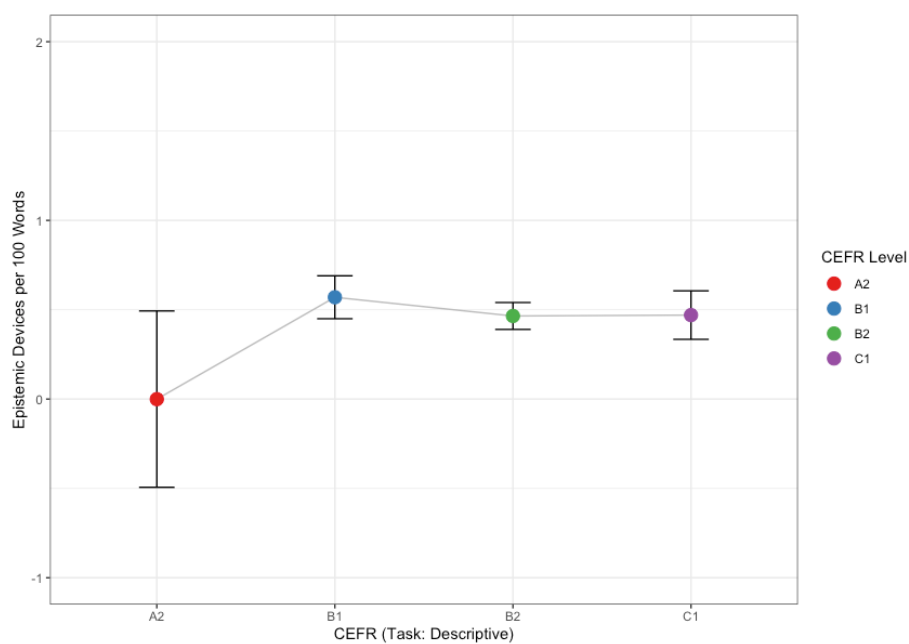


Figure 6.11 Plot for descriptive task

Among the descriptive task, epistemic stance markers are used but the gap across the proficiency level is rather limited compared to other tasks.

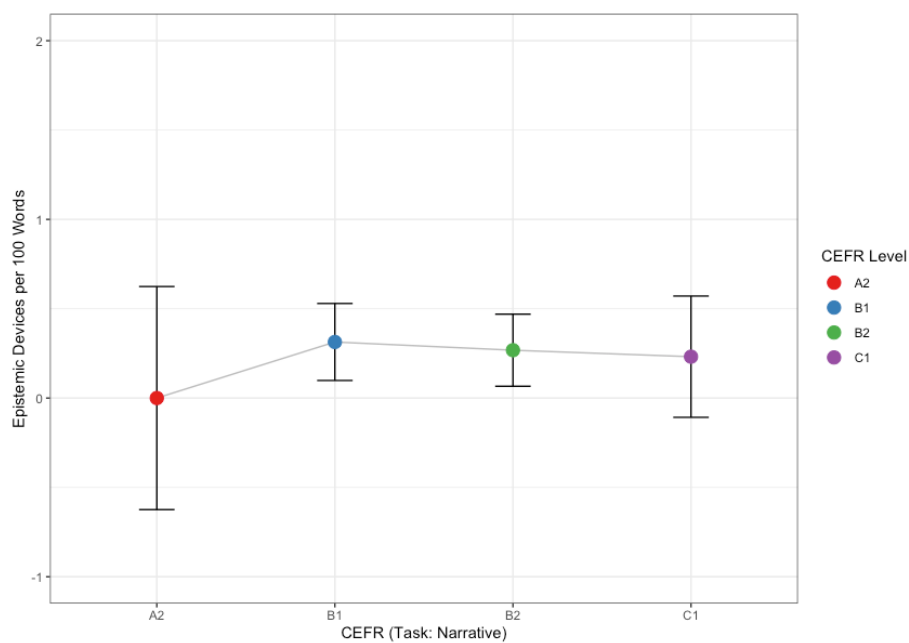


Figure 6.12 Plot for narrative task

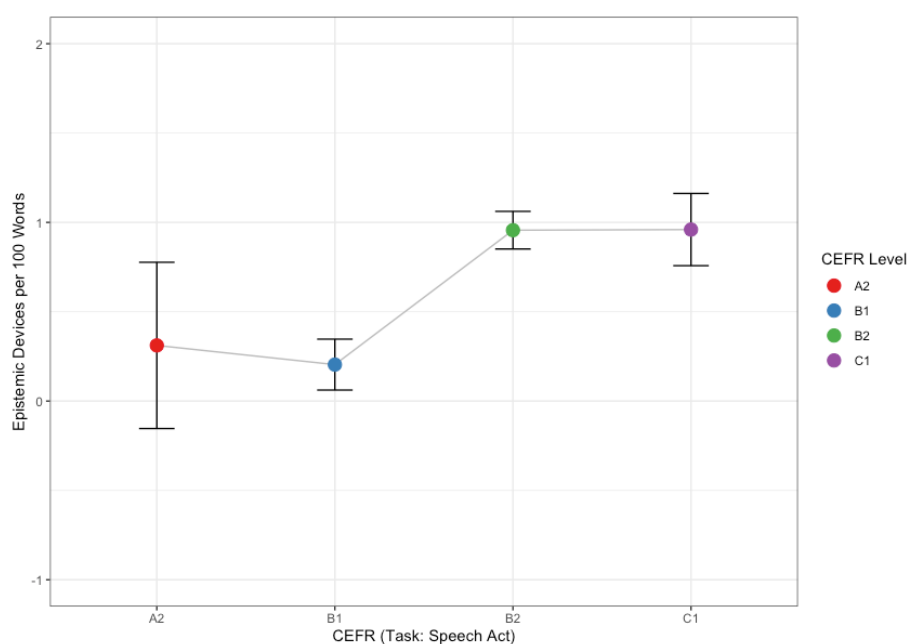


Figure 6.13 Plot for speech act task

The discrepancy in frequency between proficiency levels B1 and B2 is statistically significant ($z = -8.27, p < .001$). This divergence is pivotal as it indicates the development of sociopragmatic skills among JLE at this stage of proficiency. The usage of epistemic devices is often critical in speech acts, as it enables speakers to soften the illocutionary force, thereby mitigating any potential imposition on the reader's face. This shift in usage is predominantly driven by an increased frequency of both high-value and median-value forms.

6.3.2 Epistemic adverbs in written data

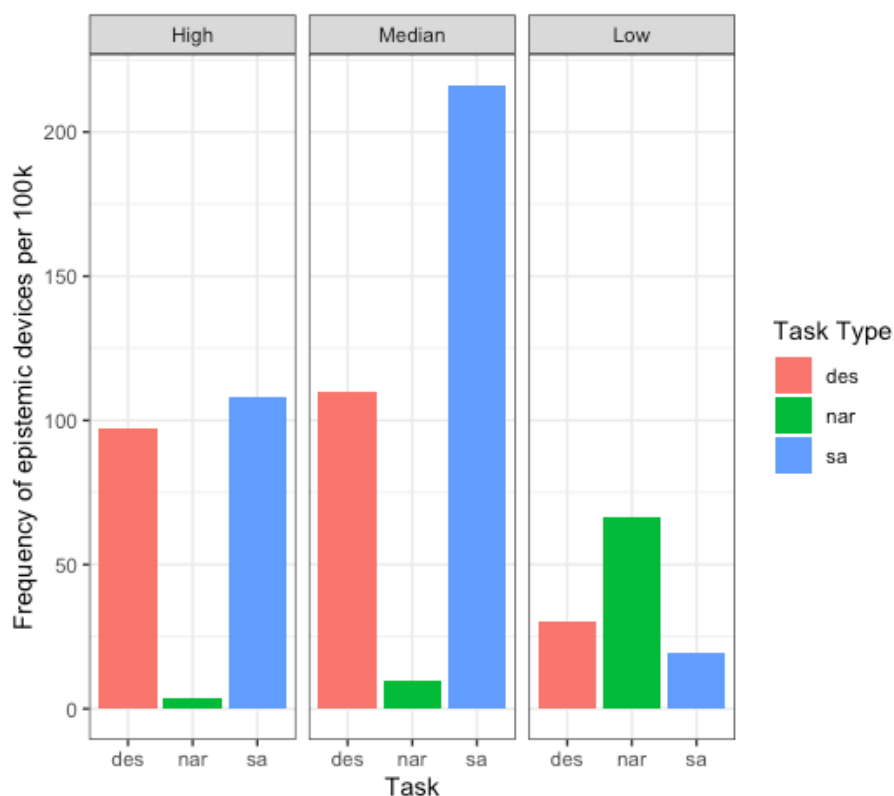


Figure 6.14 Epistemic devices in writing tasks

To scrutinise the variance across different linguistic items, this section investigates the use of epistemic devices in the written data, focusing sequentially on epistemic adverbs, verbs, and modal verbs. Figure 6.14 illustrates the use of all the target epistemic devices across three types of tasks. It shows they are most frequently used in the speech act task, which is presented in the previous section. However, this increased frequency is due to high and median value items. In contrast, low value items such as *actually* are used more in the narrative task. These divergences of use across the task are detailed in the following sections which specifically examine adverbs, verbs, and modal verbs respectively.

Table 6.14 Frequency of adverbs across writing tasks

Epistemic adverbs	DES	%	NAR	%	SA	%
maybe	6.2	8	3.9	5	2.4	2
kind of	3.7	5	0	-	0	-
actually	30.0	40	66.3	81	19.2	18
probably	3.7	5	9.6	12	12.0	11
perhaps	0	-	0	-	0	-
sort of	0	-	0	-	0	-
definitely	12.5	17	0	-	33.6	31
surely	5.0	7	0	-	2.4	2
certainly	0	-	0	-	21.6	20
obviously	1.2	2	0	-	0	-
possibly	2.5	3	0	-	7.2	7
for sure	6.2	8	0	-	0	-
apparently	0	-	1.9	2	0	-
no doubt	3.7	5	0	-	9.6	9

Table 6.14 above details the relative frequency of adverbs used by JLE within the descriptive, narrative, and speech act tasks. The percentages indicate the proportion of each word within the respective tasks. As discussed in Chapter 3, a salient characteristic observed in written outputs is the less frequent occurrence of *maybe* compared to its use in the NICT JLE, the spoken corpus of this study. Figure 6.15 graphically represents the data from the table for visual comparison.

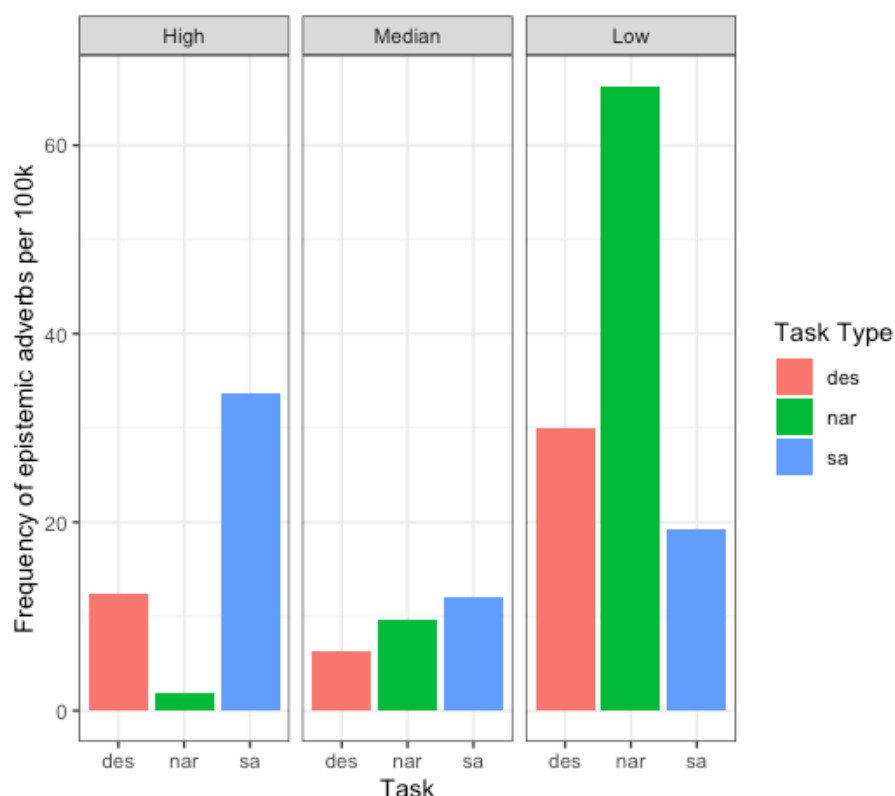


Figure 6.15 Epistemic adverbs in writing tasks

The use of *maybe*, particularly when making suggestions such as in (34), is notably infrequent. The implications of this pattern, especially in relation to NS usage, will be explored in a subsequent section.

- (34) I'll give you contact number. *maybe*, you would be better being hurry! ! enjoy
(23890_B2_73_SA²⁷)

Another distinct feature is the prevalence of high-value items, such as *definitely*, illustrated in examples (35) to (37), and *certainly*, depicted in (38) to (41).

- (35) And this is it ! ! It's *definitely* your job! because, you told me that you
(75070_B2_73_SA)
(36) the most exhilarating job for you. *I think* you *definitely* will like this job. I really
encourage you to (174700_B2_73_SA)
(37) wild crocodiles other than 1 month holiday! It is *definitely* the most suitable job
to you. I urge you (44329_B2_73_SA)

²⁷ For writing example, learner identification, CEFR, topic id, task. First three pieces of information is the identical as the previous chapters but the task is added for clarification as follows: speech act (SA), description (DES), narrative (NAR).

These adverbs constitute 33% and 21% of the epistemic device usage in the speech act task, respectively. In particular, all of these instances occur within topic ID73, where the writer's objective is to recommend a job to the reader. The strategic use of these adverbs appears to be a legitimate means for JLE to accomplish the task's objectives.

- (38) There were many things that were *certainly* different from the pamphlet.
(72398_B1_55_SA)
- (39) consequently, the company should *certainly* pay me for working the two weekends. (172913_B2_87_SA)
- (40) As a result, you should *certainly* pay me for working the two weekends.
(110098_B2_87_SA)
- (41) consequently, my employers should *certainly* pay to me for working the two weekends. (131153_B2_87_SA)

Actually, used in the narrative task, accounts for approximately 80% of all epistemic adverbs used in this task. *Actually* is used to emphasise the actuality, which could be replaced by *really* such as in (42) or (43) and used to elaborate the story after preceding sentence in (44). By using *actually*, unexpected surprise is described in (45). This usage functions to enhance the movement of emotion.

- (42) did nothing unusual. It was *actually* strange, but *maybe*, most of the passengers must have thought, (67073_C1_112_NAR)
- (43) I just wonder if we *actually* think of the technological advancements as useful, hopefully so (91751_C1_119_NAR)
- (44) with you what happened to Meg, my friend. *actually*, it was the most terrifying day in her life. (39637_B2_78_NAR)
- (45) [...] it was a wig. And the young woman was *actually* a teenage boy.
(76626_B2_78_NAR)

Another feature which is common in this task is that the writer conveys uncertainty using *maybe* in (46) whereas *apparently* is used to convey certainty in (47), indicating these patterns are vital for the narrative task as all of these epistemic verbs could be beneficial to enrich their story telling.

- (46) [...] begun crying as soon as she met her mother. *maybe* she had been patient for 40 minutes or so. (150363_B1_52_NAR)
- (47) *Apparently* he was murdered because there was a jewel-encrusted dagger nearby his body that was heavily bleeding. (2662_B2_90_NAR)

6.3.3 Epistemic verbs in written data

Table 6.15 displays the distribution of epistemic verbs within the three tasks. The prevalence of *I think* has been noted, with a particular preference evident in the speech act task. This preference can be rationalised by the role of the phrase in mitigating statements on potentially sensitive topics, such as when giving advice or when aiming to assert influence in persuasion. Consequently, its usage aligns with terms such as *definitely* and *certainly*. The frequency of *I believe* in written tasks increases, a point addressed in Chapter 4. Closer examination of the data, with respect to task variation, shows the more frequent employment of *I believe* in the speech act and descriptive tasks than in the narrative task. This pattern suggests that it is a strategic choice for JLE to emphasise the following noun clause. The speech act task also

sees more frequent use of *I know*, mirroring its rise in the roleplaying task of spoken data; this confirms that demonstrating comprehension is essential for effectively engaging in such tasks. Conversely, a decline in *I mean* in written data may stem from the reduced need for writers to rephrase their statements, irrespective of task type.

Table 6.15 Frequency of verbs across writing tasks

Epistemic verbs	DES	%	NAR	%	SA	%
I think	118.6	40	9.6	42	225.9	50
I believe	97.3	33	3.9	17	108.1	24
I know	37.5	13	1.9	8	91.3	20
I mean	3.7	1	0	0	0	0
I guess	8.7	3	1.9	8	4.8	1
seem	27.5	9	5.8	25	19.2	4

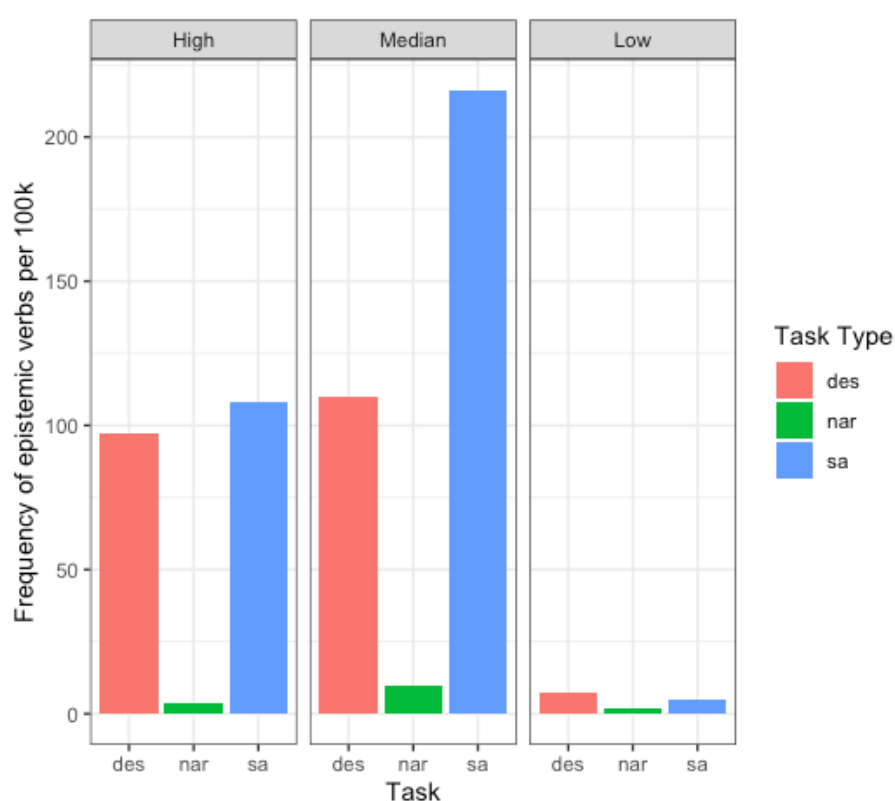


Figure 6.16 Epistemic verbs in writing tasks

As discussed in Chapter 4, *I think* is used frequently in all the tasks. Notably, it accounts for approximately 50% of the occurrence of epistemic devices in the speech act task. One canonical pattern is *I think you should [do something]* such as in (48).

(48) Bobby, I am writing to tell you, Do not be too hasty! *I think* you should write to the shop where you did the shoplifting to tell them how (140948_C1_108_SA)

The high frequency of *I believe* is discussed earlier in Chapter 4. However, the results of the analysis shown in Table 6.15 indicates this phrase primarily occurs not in the narrative task but in both the descriptive task and the speech act task. (49) and (50) provide examples of its use in the former task, whereas an instance in the speech act task is examined in (52) below.

- (49) Please find my CV attached. *I believe* that my academic and work history would make me the perfect candidate for the job (140948_B2_76_DES)
- (50) It is a position I have long aspired to achieve. *I believe* I am the perfect candidate. (136422_B2_76_DES)

Another form frequently employed in the written data is *I know*. In (51), the writer articulates the significance of the online course to his/her personal and professional development. To reinforce the statement that follows *but I think*, the writer uses a concessive rhetorical technique, introduced by the clause starting with *I know*.

- (51) *I know* it would be quite difficult to find a job in this bad economic situation, but *I think* the qualification and the completion acquired by this online study will give me an advantage to go through the difficulties. (90584_B1_66_DES)

In (52), the writer persuades the recipient to apply for a job. Therefore, expressions to amplify the message are used such as *totally, urge you to apply, by far, the most amazing*. In this context, *I believe* is employed by the writer to make their writing persuasive by asserting the advantage of the job, indicating that *I believe* functions as a device to enhance persuasiveness for JLE.

- (52) [...] it's totally meet your expectation. I urge you to apply for it, because *I believe* it would be by far the most amazing job. In addition to the salary (20303_B2_73_SA)
- (53) month and I deposit \$ 400 into a high interest saving account per month. *I believe* I can pay back the loan . Please contact me for farther information. (64859_B2_75_SA)
- (54) With your help *I believe* that I can persuade the school, particularly the principal to improve the studying environment (34190_C1_97_SA)

I know is much frequently used than *I don't know* in the roleplaying task in the NICT JLE spoken corpus. It seems significant that in speaking, the speaker needs to respond immediately, but in writing, the writer can take more time to consider the contents. In addition, *I know* is used to assert something while showing the understanding of the recipient such as in (55) to (59). It is often used to express concession.

- (55) oppose it, thus I decide to make action without notice to my wife. *I know* it is not good behavior to my wife, but I can't stop it . (87938_B1_54_SA)
- (56) I would be grateful it if you would allow me to take a holiday. *I know* you don't usually allow new employees to take leaves. (112839_B1_70_SA)
- (57) animals which require insurance, regular trips to observe horrifying wild crocodiles , etc. *I know* that you are seeking a exciting and unordinary job , which are *definitely* different from (39637_B2_73_SA)
- (58) That sounds interesting isn't it? The salary is \$ 50,000. *I know* it is not enough high as you expect, but they'll give you 1 month (124253_B2_73_SA)
- (59) I understand your situation. *I know* that you feel hesitant to come back to school. However, all the students (39796_C1_109_SA)

In the next section, modal verbs are examined. Table 6.16 shows the mapping of the relative frequency and proportion of the use of each epistemic device. Overall, modal verbs

are primarily used in the description task and speech act task but are rarely used in the narrative task.

Table 6.16 Frequency of modal verbs across writing tasks

Modal verbs	DES	%	NAR	%	SA	%
can	3.0	2	0	0	0	0
could	46.2	38	3.9	20	40.8	21
may	48.7	40	7.7	40	55.3	29
might	25.0	20	7.7	40	93.7	49

In the speech act task, *might* seems to be most preferred modal verb to mitigate the speech act or relevant sentence. (60) to (62) are examples of hedging rather than conveying uncertainty. In (60), the writer mitigates the advice given with *might*; *a plan that works for you* would be more direct. This kind of consideration is more practically important in this task than in other tasks as the negative face of the recipient of the piece of writing might be threatened depending on the degree of directness of advice. Uses like these increase the occurrence of *might* in the task.

- (60) [...] on stopping shopping addiction. Here is a plan that *might* work for you. firstly, you should set a (157918_A2_46_SA)
- (61) It's outside job, so sometimes it *might* make you feel hard physically, but you're so young (13216_B2_73_SA)
- (62) [...] professional advice *might* help your current situation. You already *might* have tried medication treatment, but there is a therapy (107061_B2_82_SA)

May and *could* are also used for a similar purpose as in (63) to (65).

- (63) [...] but *probably* find picture out of copyright . These costs *could* be similar or less than our last product. (141431_C1_103_SA)
- (64) [...] we *could* find picture out of copyright. Then costs *could* be similar or less than our last product. (128098_C1_103_SA)
- (65) That *could* be my last advise. Please think twice and carefully [...] (141431_C1_109_SA)

In the description task, similarly, writers avoid asserting their opinion, distinguishing the facts. The findings demonstrate that *could* and *may* are used more than *might*. *Could* is used as in (66) to (68) to indicate probability and there are no distinctive features which separate (63) to (65). In other words, these modals seem to be used in both the description and the speech act task. In contrast, *might* seems to be more frequently chosen in the speech act task, as in the previous examples in (60) to (62). This could be related to *can* as theoretical possibility and *may* as factual possibility (Leech, 2014, p. 102). In the case of providing advice, it is possible that *might* sounds more sympathetic and also avoids imposing on the recipient.

- (66) lessons once a week before, but realized online school *could* be better for arranging my time enough. (138902_B1_66_DES)
- (67) The strength *could* be dangerous? (172913_B2_86_DES)
- (68) It *could* be strong. However, sometimes it *could* be dangerous. (172913_B2_86_DES)

In the narrative task, modal verbs are primarily used to describe imaginary situations such as in (69) and (70). In these tasks speakers use modals to refer to something that could happen, be happening or could have happened.

(69) Meg's normal day turned out like that, and they *might* still out there.
(30293_B2_78_NAR)

(70) residents have fears that the king's curse *might* killed the tycoon and further disaster would strike the area (53350_B2_90_NAR)

In the written data, *I believe* is used more frequently than in the speaking task although the task or topic is not identical in the different corpora. However, findings show that a particular type of task elicits the expression from JLE. All in all, the mode of writing could affect speakers' choices, as high value items appear to be more beneficial for JLE. This is because these items can convey stronger certainty in non-face-to-face circumstances. In person, the speaker would be able to communicate nuances through words or non-linguistic forms such as facial expressions or gestures. However, in writing, where these options are unavailable, they might select higher value items. From the perspective of language learning, an appropriate task setting is critical to evaluate or elicit learners' language utterances.

6.4 Comparison with native speakers of English in written contexts

6.4.1 NS data and method

In this section, epistemic stance markers in the EFCAMDAT writing corpus are explored in comparison with data from NS. EFCAMDAT does not contain a subset of NS data. Therefore, the data has been collected using online survey (for details, see Chapter 2). The data collected are a total of 17,225 running words from 26 individuals whose first language (L1) is British English. The rationale for collecting data from British English speakers is anchored in the fact that the JLE writing data in this study are sourced from the EFCAMDAT, a learner corpus compiled in a British English-speaking country. Furthermore, as comparisons have been made with American English speakers in the preceding chapters 3, 4, and 5, utilising data from the NICT JLE corpus, this approach allows for a contrasting analysis with data from native speakers of different English varieties.

Table 6.17 gives an overview of the meta-information such as tokens per task, gender and age. The topics that are used in the online survey only cover the speech act task, primarily because of the feasibility of data collection, but also because the focus of the current study is the interpersonal use of epistemic stance markers, for example, used for hedging.

Table 6.17 General information on collected data

General information			Tokens per task						
No. of documents	Gender	Age	Task1	Task2	Task3	Task4	Task5	Task6	Total
26	F 20 M 6	Min. 19	2,103	3,856	2,174	1,864	4,037	3,170	17,225
		Med.							
		37.5							
		Max. 69							

6.4.2 Results of comparison between JLE and NS in written data

The basic distribution of the frequency of the target epistemic stance markers is displayed in Table 6.18. The striking difference in comparison with JLE is that modal verbs such as *could* and *may* are used more frequently than other epistemic devices. In addition, *perhaps* is more widely used and *maybe*, *think*, *actually* are less frequently used.

Table 6.18 The frequency of epistemic devices by NS

Epistemic devices	Raw frequency	Relative frequency
could	26	150.9
may	18	104.5
perhaps	17	98.7
I know	16	92.9
might	15	87.1
maybe	12	69.7
I think	12	69.7
can	8	46.4
actually	3	17.4
I believe	3	17.4
possibly	2	11.6
probably	2	11.6
certainly	1	5.8
definitely	1	5.8
I guess	1	5.8
obviously	1	5.8
seem	1	5.8

Per ten thousand words

Table 6.19 below shows the frequency of adverbs across the six topics that are used in the online data collection. T1 signifies Topic1 presented in Table 2.9 in Section 2.3.3.2 and so as the same after T2 to T6. The adverbs, which are not used, *kind of*, *sort of*, *surely*, *for sure*, *apparently*, remain in the Table 6.19 so that the results can be compared with JLE data. The information in this table suggests that topic affects the choice of epistemic devices. The total occurrence of epistemic devices is 493 in Topic 5, 122 in Topic 1, 98.7 in Topic 6, 46.4 in Topic 2, and 23.2 in both Topics 3 and 4.

In T5, not only are epistemic devices most frequently used, but the widest variety of these devices are also employed. According to Skehan and Foster (1997), tasks involving decision-making, including counselling individuals with personal issues, lead to increased complexity. T5 requires writers to describe “claustrophobia” referring to the leaflet attached to the online task and give some advice about how to handle symptoms, and encourage their friend, Ian, to stay in his current job. It is a complex task which deals with a sensitive topic for a recipient. It can be said these factors elicit the use of epistemic stance markers. For example, the use of *maybe* as a softener of suggestion in (71) and (72) is found with higher occasion than JLE case.

(71) *Maybe* also have a word with your manager and ask if you can work near a
(file8_5²⁸)

(72) *Maybe* we *could* do a meditation together and think of some affirmations to

²⁸ This sample id provides the information as writer identification by the first number and the topic number by the second number. Therefore, 8_5 signifies the writer id is 8 and the topic is 5.

repeat. (file16_5)

Table 6.19 Frequency of epistemic devices across six topics

Epistemic devices	T1	T2	T3	T4	T5	T6
maybe	5.8	0	0	0	52.2	11.6
kind of	0	0	0	0	0	0
actually	11.6	0	0	0	5.8	0
probably	5.8	0	0	0	5.8	0
perhaps	17.4	0	5.8	0	34.8	40.6
sort of	0	0	0	0	0	0
definitely	0	0	0	0	5.8	0
surely	0	0	0	0	0	0
certainly	0	0	0	0	5.8	0
obviously	0	0	0	0	5.8	0
possibly	0	0	5.8	0	5.8	0
for sure	0	0	0	0	0	0
apparently	0	0	0	0	0	0
I think	5.8	11.6	0	5.8	46.4	0
I believe	5.8	5.8	0	5.8	0	0
I know	0	0	0	0	81.3	5.8
I guess	0	0	0	0	5.8	0
seem	0	0	0	0	5.8	0
can	5.8	0	0	0	40.6	0
could	23.2	11.6	5.8	5.8	81.3	23.2
may	34.8	11.6	0	5.8	46.4	5.8
might	5.8	5.8	0	0	63.9	11.6

Similarly, another adverb *perhaps* is more frequently used than JLE, and examples are given in (73) to (77). All of them are used at the begging of the sentence while the same file number indicates the identical writer and there are repeated use by the same writer as in (73) and (74) and (75) and (76).

(73) *Perhaps* you could try these out and we can discuss in our next session? (file4_1)

(74) *Perhaps* we can have a quick coffee in the next week? it would be a (file4_5)

(75) *Perhaps* we could have a chat some time and talk through them together?
(file19_5)

(76) *Perhaps* you could speak to Julie about it too as she's a great manager and was
(file19_5)

(77) *Perhaps* you could both come round for dinner one evening next week, *maybe*
Tuesday or (file24_6)

High value adverbial items such as *definitely* in (78), *certainly* in (79), and *obviously* in (80) also appear within this topic. It may be coincidental that these usages all modify negative constructions, e.g. *definitely not alone*, *certainly shouldn't*, and *obviously we are not going to*. However, the collocations in which each word form can be found in deserve a more thorough investigation.

(78) I have other friends who deal with claustrophobia so you're *definitely* not alone
when it comes to this. Claustrophobia is a fear of enclosed spaces (file3_5)

(79) and I'm going to help you get through. You *certainly* shouldn't think of leaving

- your job - not yet, at least. (file11_5)
- (80) *may* appear a way out, but there must be a less severe option. *Obviously*, we are not going to ever get around the fact that your role will (file21_5)

As discussed in Chapter 3, the occurrence of *possibly* is significantly different compared to JLE in the spoken data. Similarly, in this written data, it is relatively more frequently used by NS such as in (81) than with JLE.

- (81) by next Monday however we will get it shipped to you as soon as we *possibly* can. It is current scheduled to be shipped out by the end of next (file25_3)

As for the verbs, the results suggests JLE use these more frequently. The examples of *I think* by NS are observed in (82) and (83), both of which precedes the noun clause containing advice with using the phrase *you need*. These serve to soften the directive nature of the advice given.

- (82) Dear Alex, *I think* you need to take practical steps to remove your ability to act on impulse, (file8_1)
- (83) enclosed spaces, which is in line with what you are experiencing. *I don't think* you need to quit your job! You can manage just fine - there are (file5_5)

Within the comparison of relative frequency, *I know* shows the almost identical rate, NS: 92.9 per 10k and JLE: 91.3 per 10k, indicating that *I know* is an important item in the speech act task for both groups. One example of the concessive use of *I know* is (84).

- (84) Ian, I've been thinking about the convo we had about your claustrophobia. *I know* it's hard and difficult and not helping with work, but I've done some research (file6_5)

NS use another high value item, *I believe* in (85) and its negation (86). *I believe* is more used by JLE; however, the negated form *I don't believe* is only used by NS.

- (85) My tutor praised my thesis highly and can give a reference upon request. *I believe* that this proves that I am ready for studying my MSc at your university (file23_2)
- (86) I have looked at my calendar and those of my colleagues and *I do not believe* this leave will clash with any major events at the company. (file3_4)

In contrast, low value forms are found in (87) and (88). In (88), the secondary verb *does* emphasises the existence of the coping strategy with the phobia and *seem* functions to avoid factualisation. It sounds both hopeful and cautious simultaneously, and the expression, which is not found in EFCAMDAT.

- (87) some of the coping strategies they suggest - like a sort of rehearsal, *I guess*, for when the panic sets in , and you start to feel like you (file11_5)
- (88) However, whilst I'm no expert, I've done some research and there *does seem* to be some reasonably straight-forward coping strategies that are supposed to be effective. (file21_5)

In (89) to (90), examples of the use of modal verbs are given.

- (89) By stopping and reflecting on decisions before making them impulsively, it *may* lead to a decrease in purchases. (file7_1)
- (90) non-specialists alike is the "Prisoner's Dilemma". This model explains how individual decisions *may not* always be the best for everyone considered together. (file3_2)
- (91) clubs to help you fill time you may otherwise spend shopping - Another option you *might* find beneficial is to take up a new hobby like knitting, painting, creative (file20_1)

The analysis extends beyond the general trend to a more detailed examination of the same task and topic. Specifically, Topic 5 is scrutinised, wherein participants are tasked with advising a colleague at the same company who is contemplating resignation due to suffering from claustrophobia. As indicated in Table 6.20, NS most frequently utilise epistemic devices in this context. For comparative purposes, usage by JLE is documented in Table 6.20 below. The epistemic forms are listed in descending order of frequency for each group of speakers.

Table 6.20 Comparison JLE and NS in the use of epistemic devices in Topic5

JLE		NS	
Epistemic devices	Relative frequency	Epistemic devices	Relative frequency
I think	26.4	I know	81.3
might	21.6	could	81.3
may	14.4	might	63.9
I know	9.6	maybe	52.2
I believe	7.2	may	46.4
could	2.4	I think	46.4
actually	2.4	can	40.6
definitely	2.4	perhaps	34.8
actually	2.4	probably, etc	5.8

JLE tokens 41616 is based on the data in Table 6.10.

The results in Table 6.20 above show the similarities and differences in the choice of epistemic devices by JLE and NS. For similarity, *may* and *might* are used to avoid giving advice in a categorical tone. Additionally, *I know* serves to show the understanding of the colleague and it is used by both groups but more frequently by NS.

One striking difference is that *could* is used more frequently by NS and indicates a tentative suggestion such as *you could* in combination with adverb *maybe* or *perhaps*. In addition to these modal verbs, *can*, which conveys possibility,²⁹ is only used by NS. In contrast, *I believe* is more used by JLE. It functions to show strong belief, in other words, strong certainty about a subjective view, which seems to be used to show sympathy or to encourage the recipient such as in (92) to (94). This could be one vital function of interpersonal use of epistemic devices. In (94), *really* further emphasises the effect.

- (92) me to advice that you consult with a doctor first before hurrying up resignation. *I believe* that the company can support you. sincerely yours, Ken (39637_B2_82_SA)
- (93) Also, they will show you how to deal with your symptoms. *I believe* it would be beneficial for you. (90584_B2_82_SA)
- (94) *I think* you have some ways to resolve your problem. *I really believe* you can

²⁹ Deontic use e.g. *can you...?* or dynamic use, e.g. *you can overcome*, is not counted in this study.

overcome the fear. stay and think deeply again. (50568_B2_82_SA)

I know plays an active role for both NS and JLE writers. In (95), the writer demonstrates an understanding of the reader's thoughts after expressing his or her own opinion. The predominant structure of this usage aligns with that of NS, as seen in *I know...*, followed by a contrasting conjunction such as *but* or *however*, as exemplified in (96) to (98).

- (95) It's too early to conclude that! *I know* you like the friendly and supportive team and don't want to quit your current job. (32017_B2_82_SA)
- (96) I must ask you to stay since you are such a skillful designer. *I know* the changes of our working environment distress you. However, *I think* you should (22179_B2_82_SA)
- (97) physical techniques. medication uses drug to reduce the symptoms for making a confidence. *I know*, you are in agony. But, don't discourage you! Please try the (45113_B2_82_SA)
- (98) I really sympathize with you. *I know* you want to leave this job because of this phobia but you are an important (44329_B2_82_SA)

High-value epistemic adverbs are also employed; these contribute to the expression of the writer's certainty, particularly when the aim is to encourage readers, as illustrated in examples (99) and (100). *Surely* is only used by JLE in the data.

- (99) I and team member will *definitely* support you. Let's work on together. regards, (32017_B2_82_SA)
- (100) Be relax and don't worry, lan. You *surely* handle and manage yourself for preventing or settling down the (27106_B2_82_SA)

As stated earlier in Table 6.16, *I think* is predominantly used by JLE in the speech act task exemplified in (101) or (102). *I think* is one the most frequently used epistemic devices by learners of English, but usage to mitigate an opinion is particularly important as it is helpful in this type of task that requires a speech act.

- (101) I understand your condition such as breathing problems, racing heart and sweating. But *I think* you do not need to quit. There are several solutions to your problems. (110098_B2_82_SA)
- (102) [...] sorry to hear that. Even though you are facing a very difficult situation, *I think* it's too fast to give up keeping your current job. (56123_B2_82_SA)

In (103), the writer employs *actually* to provide an example of a past phobia experienced. By using *actually*, the writer adds a sense of understanding of the recipient. However, as demonstrated in Table 6.14 above, *actually* is used far less frequently in the speech act task compared to the other two tasks. This suggests that JLE writers may not think it as helpful here as in the narrative writing task, as examined in examples (42) to (45).

- (103) [...] to a therapist? If not, you should! *actually*, I had a phobia of heights for years ago (174688_B2_82_SA)

6.5 Discussion

This chapter has explored the task effects on the use of epistemic stance markers and difference in use between proficiency levels. The mixed effect model demonstrates significant differences. For the spoken data, a distinctive feature of the usage by JLE is that overall, in the description task epistemic markers are used statistically significantly more frequently than in any other tasks, irrelevant of proficiency levels as displayed in Table 6.21. This table and the statistical data in the subsequent section are based on the data in Appendix A. The results indicate that epistemic devices are more frequently used to convey uncertainty in describing the picture than to interact with other individual for the purpose of mitigating potentially face threatening acts such as giving advice. This tendency towards more frequent use of epistemic devices in the description task is consistent throughout Levels 4 to 9. Level 9 use significantly more than NS ($p < .0001$). In contrast, the lowest frequency is observed in the narrative task for all the proficiency groups. This is in line with the written data, which discusses later in this section and lends support with the previous study such as Michel et al. (2019).

Table 6.21 Sig.difference in proficiency level and task interaction

Group	1	sig	2	sig	3	sig	4
Lv4	DES	>***	INT	>*	RP	> -	NAR
Lv5	DES	>***	INT	>-	RP	>*	NAR
Lv6	DES	>***	RP	> -	INT	>***	NAR
Lv7	DES	>***	INT	> -	RP	>***	NAR
Lv8	DES	>***	RP	> -	INT	>***	NAR
Lv9	DES	>***	RP	> -	INT	>***	NAR
NS	RP	> -	INT	> -	DES	>*	NAR

*** p -value $< .001$, * $p < .05$

However, the tasks in which the second and third most frequently epistemic devices are used are different. In lower groups such as Levels 4 and 5, epistemic devices are used less frequently with statistical difference than in the interview task. This indicates a lack of pragmalinguistic or sociopragmatic knowledge or skill to use epistemic devices in this context. A different pattern is seen in the next groups in Level 6, as in the roleplaying task, epistemic devices are used more than in the interview task although there is no statistical difference and this pattern reverse in Level 7. Nevertheless, the trend that more epistemic devices are used in the roleplaying task continues in the upper intermediate groups such as Levels 8 and 9. This development pattern suggests a potential demand among JLE for using these epistemic devices in tasks that often require hedging, such as giving advice or negotiating, as seen in the roleplaying tasks in this study. Lower proficiency groups may find them difficult to use or may simply be unaware of their importance. However, they are gradually learned and start to be used around the intermediate level, such as Level 6.

Additionally, this trend of greater use of epistemic stance markers in the roleplaying task is in line with the result of NS. As the Table 6.21 demonstrates they are used in RP, INT, DES and NAR, in this order. This result indicates that the focus of NS is more on the interaction expected in the roleplaying task and interview task. Epistemic devices would be used as the device of conveying uncertainty and more importantly, of interpersonal way as shown in (104).

(104) So I wonder if you *might* be able to help me out. (file00015_ns_3)

Comparing the same task, there is no significant difference in the frequency of epistemic devices between upper intermediate groups, Levels 8, 9 and NS. The difference lies in between NS and Level 7 ($p < .05$) and lower proficiency group. Therefore, in terms of pedagogical implications, it could be beneficial for intermediate group, CEFR B1, to be trained in this type of the use of epistemic stance markers in the conversation.

As for the written data, the refined version of EFCAMDAT is used. It shows a distinctive pattern compared to the spoken data. For example, epistemic devices are expected to be used statistically significantly more frequently in the speech act task, which comprises a similar task to roleplaying but different to the other two tasks ($p < .01$ vs. narrative task, $p < .05$ vs. descriptive task). As shown in Table 6.21 above, the description task outweighs other tasks in the frequency of epistemic devices in the spoken data.

Although the epistemic devices are used in the speech acts task with statistically significant difference, use varies with the proficiency levels. Table 6.22 shows the pairwise test between tasks per proficiency level.

Table 6.22 Abbreviated results of pairwise test between tasks in writing

CEFR	Task contrast	estimate	SE	df	z.value	p.value
A2	descriptive - speech act	-0.31199	.3476	1051	-0.898	.6420
B1	descriptive - speech act	.365779	.0955	1046	3.83	.0004
B2	descriptive - speech act	-0.49125	.0662	1050	-7.417	<.0001
B2	narrative - speech act	-0.68837	.1165	1026	-5.909	<.0001
C1	descriptive - speech act	-0.48985	.1243	1029	-3.942	.0003
C1	narrative - speech act	-0.72832	.2027	1052	-3.593	.0010

This table is abbreviated to show significant values (with the full version is provided in Appendix B), indicating that the first row is about CEFR A2 group and the descriptive task is estimated in approximately -0.3 less frequently than in the speech act task, yet there is no statistical difference as shown $p = .642$. B1 group use them more frequently in the descriptive task with significant difference, which differs from the overall tendency.

Table 6.23 shows the pairwise test between proficiency levels in the speech act task.

Table 6.23 Pairwise test between proficiency levels in the speech act task

CEFR contrast	estimate	Se	df	t.ratio	p.value
A2 - B1	.10742	.2495	1052	.431	.9732
A2 - B2	-0.64479	.2446	1051	-2.636	.0423
A2 - C1	-0.64840	.2605	1029	-2.489	.0621
B1 - B2	-0.75221	.0910	1043	-8.270	<.0001
B1 - C1	-0.75582	.1276	766	-5.921	<.0001
B2 - C1	-0.00362	.1176	763	-0.031	1.0000

In the written data, the results indicate that there is a statistically significant difference between B1 and B2 in adjacent groups. There is no statistical difference in other combinations in the narrative task and descriptive task provided in Appendix B in detail.

The findings indicate that the development pattern is similar to that shown in the speaking tasks, in that JLE use epistemic devices more in the description task to convey uncertainty, but also more in tasks which involve interaction, such as interview or roleplaying in speaking and the speech act in writing as their proficiency level rises.

The NS data shows similarities and differences compared to the JLE data. Table 6.20 above shows the two groups have a selection of epistemic stance markers in common in the on top five frequency items. However, the overall relative frequency differs markedly, as do

choice of modal verbs and adverbs. For adverb, for example, *maybe* is used to support suggestion or advice demonstrated in (71) and (72) above.

In the description task, frequent occurrences of epistemic devices are observed. The pedagogical implication is that the lower proficiency JLE might improve the utterance with these epistemic devices. Conversely, using uncertainty markers less frequently could help depict the target with clarity.

6.6 Conclusion

This chapter has investigated the use of epistemic devices by JLE in comparison with NS, focusing on task effects utilising mixed-effects models. In speaking, JLE employ epistemic stance markers in the description task more frequently across all proficiency levels, which differs markedly from the NS data. The use of epistemic markers is most typical in the picture description task, as learners need time to think about the contents of their utterances or to manage situations where their vocabulary is insufficient. In contrast, in the narrative task, all groups, including NS, use epistemic devices less frequently, as less guess work is needed than in the description task, and fewer opportunities to mitigate utterances using epistemic devices as required the interview or roleplaying task.

The frequency with which epistemic devices are employed as the second most common strategy varies according to proficiency level. A notable development is the increased usage in the roleplaying task, as this task often involves potentially face-threatening interactions, such as giving advice or requesting a refund from an uncooperative individual. The findings suggest that the higher the proficiency level, the more adept the speakers are at handling these situations with epistemic devices. Lower proficiency groups, such as Levels 4 and 5, utilise them in the order of DES > INT > RP > NAR, while the intermediate and advanced groups, excluding Level 7, do so in the order of DES > RP > INT > NAR. Considering the NS data, which show the use of epistemic devices in the order of RP > INT > DES > NAR, a more frequent use of epistemic devices in RP represents an appropriate developmental pattern.

In the written data, the analysis has been conducted categorising the data as descriptive, narrative and the speech act task. The data show that JLE use epistemic devices in the speech act task statistically significantly more frequently than in the other tasks. However, in the spoken data, in the lower proficiency groups such as CEFR A2 or B1, epistemic devices are used less frequently in speech acts; in other words, they are used more frequently in the descriptive task. Groups B2 and C1, the intermediate and advanced groups, employ epistemic devices in the speech act task, which has similar features to the roleplaying task in speaking data.

These findings demonstrate the importance of focusing on the task type in analysing corpus data. Although this research is not primarily focused on language education, the findings suggest that it would be beneficial to give instruction on how to use epistemic stance markers in interpersonal ways through the roleplaying task or speech act task, especially around CEFR B1 level of JLE.

In supplement, the MEM in this study focuses on task type and proficiency level as fixed effects and individual difference as random effects. Depending on the research purpose, other variables could be added to the model such as age, gender, and experience of study abroad. Focusing on another variable or expanding the current model to other variables could reveal other features of usage.

Additionally, in this study, the data gathered from NS using an online writing survey has been used as a small reference corpus for comparison with EFCAMDAT. The results are presented in the final section and the findings show particularly frequent occurrence of

epistemic stance markers in the speech act task, especially topic 5 on advice on the colleague experiencing claustrophobia, which has the highest task complexity succeeds in eliciting the use of epistemic devices. In this regard, the study demonstrates the usefulness of native speakers' reference data. Having said this, the data are limited in the specific task and topic, and the restriction of the data scale makes it difficult to incorporate into the current mixed effect model. Therefore, further data gathering could provide insights into the analysis using the mixed effect model.

In the next, final chapter, the findings from all the studies conducted in Chapter 3 on epistemic adverb, Chapter 4 on epistemic verbs and Chapter 5 on modal verbs and this Chapter 6 on task effects are summarised and concluded.

Chapter 7 Conclusion

7.1 Introduction

In the current thesis, the use of epistemic stance markers by Japanese learners of English (JLE) has been investigated. These markers are used not only to indicate level of certainty about the propositions the speaker or writer states, but also to convey their feelings, thoughts and beliefs. Using epistemic devices is an important language skill because it enables users to express more than just facts by conveying reliability or adjusting their commitment to claims. Additionally, these markers are employed to improve interpersonal communication. For example, a request phrase like *could you* is made more tentative by adding an adverb such as *possibly*.

However, it is challenging for learners to use these markers due to their multiple forms, including lexical and modal verbs, and their multiple functions, such as the deontic and epistemic uses of modal verbs. Existing literature on epistemic stance in second language learners is growing, but close analysis of the use of epistemic devices by JLE and the effects of different factors such as proficiency level or task type is still needed. Therefore, this research aims to fill this gap by addressing the developmental pattern of these markers by JLE, examining if there are different patterns in spoken and written data, determining if task types affect the use of these markers, and exploring if these markers are used differently by JLE compared to native speakers of English (NS).

This final chapter first summarises the findings from each study in Section 7.2, and proceeds to a discussion in Section 7.3. The discussion considers development across proficiency levels (7.3.1), comparison to NS (7.3.2), implications from the research (7.3.3), limitations and future directions (7.3.4), and concludes with closing remarks in 7.4.

The next section provides a summary of the findings from studies discussed in the preceding chapters. Section 7.2.1 revisits the study of epistemic adverbs from Chapter 3. Section 7.2.2 focuses on the analysis of verbs presented in Chapter 4, while Section 7.2.3 examines modal verbs, as discussed in Chapter 5. Finally, Section 7.2.4 summarises the effects of tasks, a topic explored in Chapter 6.

7.2 Findings from the current research

The data used for this research is the NICT JLE corpus (Izumi et al., 2004) for the spoken data. It describes the proficiency level of JLE as the Standard Speaking Test (SST) level from 1 to 9 and Levels 4 to 9 are extracted for this research. The data for writing are extracted from the EF Cambridge Open Language Database (EFCAMDAT, Huang et al., 2017; Shatz, 2020). This data set provides the information of JLE's proficiency level from A1 to C1, based on the Common European Framework of Reference (CEFR) for Languages (Council of Europe, 2001). The evaluation of these data set is addressed in limitation and future direction in 7.3.4.

7.2.1 Findings on epistemic adverbs

Chapter 3 examines the use of adverbial expressions by JLE. Previous studies indicate that learners more rely on the adverbial and verbal expressions than modal verbs to realise epistemic meaning (Fordyce, 2009, 2014). In this regard, the results of this study concur them. However, the current study show unique results of use of wide variety of adverbs,

which indicate different levels of certainty. First, the use in these different values in the spoken data and development pattern of JLE are discussed, followed by the results in the written data. Comparison to NS is discussed in section 7.3.2.

In spoken data, applying the framework of Systemic Functional Linguistics (SFL, Halliday & Matthiessen, 2004), the result shows the reliance of median value items which comprise *maybe*, *probably*, and *perhaps*. These median value items account for nearly 60% of all the use of adverbial epistemic devices. *Maybe* is the most frequently used adverb whereas *perhaps* is rarely used and this is in line with Fordyce (2009). The second most frequently used type is low value forms such as *actually*, or *kind of*, which accounts for 38%. These two groups together account for nearly 98% of the total and therefore one noticeable feature of spoken data is indicated by the low frequency of the items categorised in high value, only 2.1%. These include *obviously*, *apparently* and *definitely*. Considering the dynamic nature of spoken language, there seem to be fewer opportunities for JLE to use these strong certainty markers. This is because JLE might avoid being considered too aggressive or impolite in a formal setting of language assessment, or they may lack the confidence to use these high-value forms. The result that high-value items account for 2.1% of total adverb use is lower than the results reported by Gablasova et al. (2017), which record 12.03% in presentations, 6.95% in discussions, 2.86% in interviews, and 7.42% in conversations. Compared to the current study, the higher proficiency level of their participants may be one cause for this difference, and cultural differences may be another.

However, in a limited number of situations, such as negotiations where speakers need to assert themselves rather strongly, these certainty markers are used by JLE. In Example (1), the speaker is requesting a ticket refund, which is rejected in a role-playing task. For JLE to use high-value forms effectively in spoken contexts, it might be necessary for these markers to be emphasised in textbooks or classroom, while further investigation is needed to determine whether JLE have knowledge of high-value items already and choose not to use them.

(1) [...] I paid a lot of money for this ticket. So I *definitely* err ee like you to er pay me back. (file00705_6_3)

The distribution of these adverbial forms is notably different in written data. High-value expressions account for 28.9%, a stark contrast to the 2.1% observed in spoken data, approximately fourteen times more frequent. This discrepancy, although substantial, must be contextualised by considering variations in tasks or topics. For instance, epistemic adverbs such as *surely* and *no doubt* are more prevalent in writing. It may be posited that this modality enables JLE to use forms indicative of strong certainty, as the act of writing affords more time for deliberation over content than speaking does. This additional time may facilitate the use of stronger expressions when deemed necessary. Alternatively, these devices might be employed to compensate for the absence of face-to-face interaction. Furthermore, there is no opportunity for back-and-forth discussion and building up an agreement, so the writer normally only has that one opportunity to make their point and has to be assertive. In contrast in speech and dialogue, there is more time to get to the point slowly and gently if the speakers think necessary.

In terms of low-value expressions, there is no significant difference between written and spoken data, with proportions of 38.9% and 38% respectively. Consequently, there is a marked decrease in the use of median-value forms in written data, dropping to 32.2% from the 60% observed in spoken data. This decline is particularly reflected in the reduced usage of *maybe*. This happens because writing, again, affords more time to contemplate content or to confirm before outputting if necessary. Example (2) is an instance in the spoken data,

where *maybe* is added at the end of the second sentence to convey uncertainty about the company name in the topic. This type of use of *maybe* decreases in the written data.

- (2) My husband work to um work to company. Company's name is XXX06
maybe. (file00363_4_1)

The developmental pattern for epistemic adverbs varies across proficiency levels. The adverb *probably* displays a relatively straightforward developmental trajectory, with usage increasing at higher JLE proficiency levels. However, such clear-cut increases in frequency with rising proficiency are rare. *Actually* is the second most frequently used adverb by JLE. The lower proficiency groups begin using it, and its frequency continues to rise up to Level 8. A drop at Level 9 is observed, the reasons for which are unclear; this could be due to individual preferences, as Level 9 constitutes the smallest group with 40 members. The epistemic usage of *kind of* and *sort of* is relatively distinct within the advanced groups, such as Levels 7, 8, and 9. Moreover, *possibly* and *perhaps* do not show any increase in usage, even as proficiency levels rise.

In the written data, the high value group, including adverbs like *surely* and *definitely*, comprise 28.9%, yet A1 and A2 group on the CEFR scale use these items sparsely to show certainty. However, B1 group start using them. The use of *surely* is rarely seen in the spoken data while it is used in written data to express a strong possibility that something will happen, frequently collocating with a volitional modal verb, *will* as in (2) and (3).

- (2) *Surely*, I will make mistakes lots. (145097_B1_50)
(3) [...] as your leader of the student council, it *surely* will be a the right decision.
(34190_C1_97)

For the median group, A2 use *maybe* most frequently and it decreases at B1 level largely, indicating predominant use of the adverb among elementary level learners. Conversely, *probably* as in (4) is rarely used in the lower group such as A1 and A2. B1 group use it at almost closer frequency to *maybe*, and then B2 and C1 use *probably* more frequently than *maybe*, which is different case than spoken data. It suggests advanced proficiency level of JLE's understanding of the item, which is used in writing mode more frequently than in oral mode.

- (4) After listening it, *probably* you will become to feel nostalgic. (131538_B1_58)

For the low-value group, *actually* is used most frequently, which is identical to what is found in the spoken data. The developmental pattern is also close to the one in the spoken data as it is rarely used in A1 group but it sharply increases in A2 and culminates at B1 and finally decreases in B2 to C1. It is even rarer that *possibly* and *kind of* are used by JLE except C1 group. Additionally, the epistemic use of *sort of* employed by JLE is not found at all in this sample. These results lend support to Biber et al. (1999, p. 869), as it demonstrates *kind of* and *sort of* are rare in writing although the context of their research is in fiction, news, and academic writing. However, findings from this research regarding *perhaps* do not match the statement in Biber et al. (1999) that *perhaps* is used more in writing by native speakers of English, notably, in fiction and the academic context. In this study, JLE do not use it in either spoken or written data.

7.2.2 Findings on epistemic verbs

Chapter 4 investigates the use of epistemic verbs. To express epistemic meaning, these types of verbs are critical; previous research shows learners heavily rely on *I think* along with adverbs such as *maybe* (Fordyce, 2009). In addition, there are a variety of other verbs to convey different levels of certainty. *I believe* expresses higher certainty, whereas *I guess* indicates lower certainty than *I believe* and *I think*. Furthermore, these verbs can be used with or without a *that*-clause, and can be inserted in the middle or at the end of a sentence. These multiple choices and functions generate rich modality, but are challenging for learners (Baumgarten & House, 2010).

In the framework of SFL, the distribution of epistemic verbs in spoken data accounts for 4.9% of all use of verbs in the high value, 70.9% in median, 24.3% in low. The median group includes *I think* and it shows the high dominance of this category, which is in line with previous studies such as Fung and Carter (2007). The high value group contains *I know* and *I believe*. Similar to the adverbs, high value in spoken data accounts for low percentage. As for *I believe*, there could be no sufficient reason to convey strong certainty in the situation in the tasks through the SST, from which data for the NICT JLE corpus are collected. *I know* is frequently used to convey the understanding to the interlocutor, yet this is more used by NS. JLE use it frequently as a reply or nodding by repeatedly saying *I know*, *I know* to express understanding, which could be a result of L1 transfer (Suzuki et al., 2023). For the low value group, the verb which represents the highest proportion is *I guess*. It is used to mitigate the opinion in an identical way to *I think*, and either precedes the objective clause or is added to the end of the sentence as in (5).

(5) And then, son went home. But father went to work, *I guess*. (file00620_6_4)

The written data also demonstrates the high dominance of median value expressions including *I think*. However, high value items such as *I believe* and *I know* account for a higher percentage than in the spoken data: 29% in high value, 63.8% in median value, and 7.2% in low value. The large difference in high value (spoken 4.9% vs. written 29%) or in low value (spoken 24.3% vs. written 7.2%) seems to show a tendency for writers to use assertive expression more frequently than speakers. For example, this can be seen in the use of *I believe*. At the intermediate level, Level 9 in spoken and B1 in written, the result demonstrates that *I believe* is nearly eight times more used in writing (14 vs. 112 in relative frequency per 100,000 words). This difference, as mentioned in 7.2.1, could derive from the feature of writing that the writer and reader are supposed not to be face to face in person. Writers probably feel they need to use more words with certainty, categorised in high value here. This is more explicit in the task such as speech act explored in Chapter 6.

The developmental trajectory in the spoken data exhibits broadly two patterns. One notable pattern is the frequent use of *I believe*, *I guess*, *I know* and *I think*. by Level 9, which is the most advanced group in this dataset, corresponding to B2 to C1 on the CEFR scale. *I believe* is the least used verb in this study, possibly owing to its connotative strength, implying a firm conviction beyond the necessity to deal with the topics in the speaking test. In contrast, *I guess* falls into the low-value group, adding a weaker nuance, hence its use is not imperative. Both expressions seem to require users to discern the appropriate context for their use; in other words, they necessitate a type of sociopragmatic knowledge (Leech, 1983). For the acquisition of *I guess*, Kizu et al. (2022) indicate that studying abroad provides an opportunity to learn. Through a longitudinal study, they observe that a student who relied on *I think* to express hedged assertions before and during their time abroad also began to use *I guess* during their stay.

I think is most frequently used among other epistemic devices. Upper level JLE, exemplified in (6) and (7), use the expression with epistemic adverbs and modal verbs. In particular, these are used to emphasise their utterances rather than mitigate them (Aijmer, 1997; Holmes, 1990).

- (6) So *I definitely think* private shops are superior than those department stores.
(file01266_8_7)
- (7) *I would really think* that that policy is not a very good one because ah many people do make (file01188_9_3)

Another observed pattern is that intermediate groups most commonly employ phrases such as *I mean*, with Levels 7 and 8 using them more frequently than Level 9. A plausible explanation is that the intermediate group, Levels 7 and 8, acquire the ability to use a discourse marker like *I mean* to connect their discourse, using it to modify or clarify preceding utterances as in (7) more frequently than the higher levels.

- (7) *I think* my school was a good school. *I mean* not so many people are sleeping.
(file01190_7_6)

Alternatively, they may simply require more time to contemplate the content or lack the advanced vocabulary choices of the higher levels. Further study to explore these possibilities is needed, taking into account individual differences, and using confidence intervals within which the mean frequencies range and divergence with NS. Meanwhile, *seem* is most frequently used by Level 6, surpassing the upper proficiency groups.

For the written data, the developmental pattern shows a slightly different trend than in the spoken data. *I think* and *I know*, which are most frequently used by Level 9 in the spoken data, is used more frequently by lower and intermediate proficiency groups than C1 group. *Seem* shows the opposite trend. It is used more frequently by intermediate levels such as Levels 6 or 7 in spoken data, yet in written mode it is used more by B2 and C1. It should be noted that some task prompts in the written data could affect the writers' choices. For example, *I think you should* seems to be provided as it is used repeatedly by multiple learners. The issue of whether advanced level learners have more choice or not needs further investigation.

In sum, these different verbs behave differently and JLE need to be trained to use them effectively. *I believe* and *I guess* are most frequently used by the C1 proficiency group, while *seem* is predominantly used by the B2 group. This indicates a preference for these expressions among higher proficiency JLE learners. In this context, the usage of *I believe* and *I guess* aligns with the patterns observed in spoken data. However, while *I mean* follows a similar trend, its overall frequency is significantly lower in comparison to spoken data. This discrepancy may reflect the dynamic nature of speaking and the more static nature of writing. *I think*, which generally has a high frequency, is more commonly used by lower proficiency groups, suggesting their reliance on this expression in spoken communication. For lower groups, it is possible for lower group to know the meaning of *guess* itself as to speculate something as it is classified as A1 level vocabulary. However, *I guess* functioning to mitigate utterances is far less frequently used. In fact, this usage is described in English-Japanese dictionaries (e.g., *Genius English-Japanese dictionary 6th edition*), but training students to master epistemic use would be beneficial. In addition, picking up knowledge about epistemic markers through studying abroad experience could be another vital factor for the development of the use. Furthermore, *I mean* can function as a discourse marker to maintain

conversational coherence. For JLE learners, these results imply that different expressions impose varying cognitive loads.

7.2.3 Findings on modal verbs

This short chapter, Chapter 5, explores four modal verbs: *can*, *could*, *may*, and *might*, as these four are most relevant to epistemic modality among other modal verbs. Previous studies indicate the late development of modal verb use by learners, which can be explained by multiple factors including their multifunctionality in deontic and epistemic uses (e.g., *may* for likelihood or for permission) and “the greater syntactic processing that is required to integrate them into utterances” (Fordyce, 2014, p. 9). This means that lexical verbs discussed in Chapter 4 and modal verbs are used differently by JLE and therefore, these modal verbs are examined separately in Chapter 5.

Findings from this research demonstrate that *can* and *could* are used to convey epistemic meaning by JLE sporadically. In particular, *can* is not used for this purpose across the proficiency levels. *Could* is also predominantly used by JLE in deontic and dynamic use. However, it is used epistemically by upper intermediate and advanced level groups, and it is more frequently used in the written mode. It seems likely that this is because the cognitive load of incorporating it into a sentence may be less heavy when JLE have more time. *Could* is primarily used by JLE as the past tense of *can*, which conveys capability, or dynamic use. JLE begin to use *could* from Level 6 at a frequency of 0.6 and this reaches 15.6 in Level 9, equivalent to CEFR B2 and beyond. In written data, A1 level learners use *could* at a rate of 12.6 whereas B2 and C1 levels use it at rates of 40.1 and 52.9, respectively.

To convey epistemic meaning, *may* and *might* are used more frequently by JLE. Notably, the result that *might* is most frequently used among these four modal verbs in the spoken data indicates that the multifunctionality of *can*, *could*, and *may* is challenging for JLE, especially for elementary to lower intermediate proficiency groups.

In regard to *may*, its frequency rises as the proficiency level grows, with an unexpected drop at Level 7. Statistical analysis indicates a significant difference between Levels 7 and 8 ($p < .05$, $r = .41$: median effect); however, it should be noted this is primarily due to the unclear drop at Level 7. For *might*, there is a notable rise from 6.4 in Level 6 to 26.4 in Level 7, and the post hoc test indicates a significant difference ($p < .01$, $r = .40$: median effect). The frequency continues to rise across proficiency levels, reaching 37.4 in Level 9. Nevertheless, no statistically significant differences are observed between Levels 7 and 8 or between 8 and 9. In the spoken data, *might* is used more frequently than in written data at both the elementary (s: 17.4 vs. w: 10.7) and intermediate (s: 53 vs. w: 30.8) levels. This pattern reverses at the advanced level, with the spoken frequency being 37.4 and the written frequency rising sharply to 130.6.

The results indicate that overall JLE use modal verbs more in writing than in speaking. Literature such as Fordyce (2007) indicates the difficulty involved in using epistemic modal verbs in general for JLE, primarily because these modal verbs require them to manipulate tense or hypothetical situation, or assess the degree of the possibility. However, the difficulty with these expressions is partly reduced by being given the time in writing. It should be noted that the difference of the test environment in person for speaking vs. online for writing might affect the results as the latter is not completely controllable without an examiner.

7.2.4 Findings on the effects of tasks on the use of epistemic devices

Chapter 6 focuses on task effects. A number of factors are involved in speakers' and writers' use of epistemic devices, and an important feature of the current research is to consider the

interaction between these factors. For this chapter, a mixed effects model has been adapted in order to analyse the interaction between proficiency levels and task type both in spoken and written data. The findings in this chapter show that JLE use epistemic devices statistically significantly more frequently than NS in the description task. This indicates JLE often struggle with the vocabulary needed in the task, and epistemic markers are used to indicate their difficulties as in (8).

(8) [...] dress is just looking at him *I mean*, seeing him tasting wine. And *maybe* waiter, I should say, or *I don't know*, someone who I forgot the word, but someone who *actually kind of* recommend really good wine to the guest, [...]
(file01207_8_DES)

Apart from the description task, the task where JLE use epistemic devices the second most frequently varies depending on the proficiency level. The data of Levels 6, 8, and 9 demonstrate that JLE in these groups use epistemic devices more in the roleplaying task whereas the lower groups as Levels 4 and 5 use them more in the interview task. This result implies that lower proficiency groups are given more encouragement and help to speak by the interviewers, especially, when they are asked to respond in the initial interview task, they are asked to respond. They attempt to reply back using *I think* or *maybe*, two of the target epistemic devices. However, epistemic devices are less frequently used in the roleplaying task in which more active choice is required. Active choice means that using epistemic devices is not necessarily a must as they are supportive elements, compared to the main frame components in the sentence such as an object noun, or objective clause. Therefore, measuring use of epistemic devices could be helpful in evaluating the pragmalinguistic or sociopragmatic knowledge of learners. Examining the use of these epistemic markers can give us insight into learners' knowledge of these aspects of English language. For example, in (9), the interviewer represented by A is asking question on the opinion to the interviewee in B after conversation about two baseball teams the interviewee belongs to. JLE represented in B uses *I think*, but this usage appears to respond directly to the interviewer's question *Why do you think?* rather than to soften the speaker's opinion.

(9)
<A>Why do you think that high school baseball team is stronger?
Umm. *I think* mm they are er er they are er play m play baseball. But uh my company team member is umhm umhm umhm some of um team member is um not good at um play baseball. (file00005_4_INT)

In contrast, in (10), another JLE at Level 9 employs *maybe* to make a suggestion, as in *maybe you can*, or uses *I guess* to express an opinion while negotiating for a new train ticket in the role-playing task, which seems to enhance the flow of communication in that context. JLE with lower proficiency levels do use epistemic devices in the role-playing task, but their use is limited in variety and frequency, and tends to be more direct, such as the repeated use of *please*, as in (10).

(10)
<A>I see.
Well *maybe* you can check the T, well you can turn on a T V and you can get some information about the accident.
<A>I see.
I guess I have a right reason to get a ticket.

<A>Right. O K. well sounds like a right reason. But unfortunately our next train is fully booked. (file01274_9_RP)

(11) Please er please please permit it. Err *I know* it's but er I mm I already er nantendakke (*how can I say?* in Japanese) pay er much money for [...]
(file00056_4_RP)

For the writing data, a mixed effect model is employed using the refined version of EFCAMDAT. It demonstrates the divergence from the speaking data. For example, the epistemic devices are used statistically significantly more frequently in the speech act task, which consists of tasks akin to roleplaying in the speaking data, than other two tasks ($p < .01$ vs. narrative task, $p < .05$ vs. descriptive task). It provides a contrast with the aforementioned results in the spoken data where epistemic devices are most frequently used in the description task than in other tasks. However, use varies with the proficiency levels. Only B2 and C1 use epistemic devices in the speech act more frequently than in other tasks with statistical significance.

The findings indicate that the development pattern is similar to that seen for the speaking tasks in that JLE use epistemic devices more in the description task to convey uncertainty. However, in writing greater use is seen in task with the interactive nature, such as the speech act.

7.3 Discussion

This research is guided by three central research questions, with each chapter addressing the developmental trajectories of specific epistemic items per part of speech. This section synthesises the discussions around these questions, considering all targeted epistemic stance markers.

1. What is the developmental trajectory of Japanese learners of English (JLE) across the groups?
2. How are epistemic stance markers used in the spoken and written data?
3. Is there any difference in the usage patterns of epistemic stance markers between JLE and native speakers of English (NS)?

Earlier sections of this chapter have revisited the findings from previous chapters, examining the epistemic devices in epistemic adverbs, verbs, and modal verbs. This discussion aims to integrate these insights to shed light on the use of the target epistemic devices overall. The forthcoming section, 7.3.1, explores the developmental patterns of JLE and their variations in both oral and written forms. Section 7.3.2 presents a comparison with native English speakers, synthesising findings from each chapter.

The learner corpora used for this research were collected through language assessments. Therefore, when interpreting the results, several factors might influence the use of epistemic devices in this data. First, these assessments are relatively high stakes for JLE but not for NS. Differences in motivation, particularly the goal of achieving high scores in an assessment, could affect JLE's choice of epistemic devices. One possible outcome is that JLE might use epistemic devices more frequently than in normal conversation to avoid using incorrect expressions or to find a precise answer. Conversely, the frequency might decrease if JLE attempt to demonstrate confidence in the test setting. In contrast, NS participate in less pressured situations compared to JLE, and therefore, their results are more likely to reflect routine use of epistemic devices.

Similarly, psychological factors, such as the pressure of using a foreign or second language in formal settings, might also impact language choices compared to more casual, daily conversations. For example, JLE may use epistemic devices to buy time while searching for the appropriate expressions, a behaviour that might occur less frequently in everyday conversation. Likewise, the speaker's role could also influence the choice of epistemic devices (Gablasova & Brezina, 2015). In the case of the NICT JLE corpus, which contains spoken data, participants are interacting with an examiner, a situation that inherently requires a degree of formality. Furthermore, the examiner is a Japanese expert in English, which may cause learners to feel more at ease with someone who shares their linguistic background or, conversely, they might experience psychological resistance to using English in such interactions. Additionally, NS might hedge more frequently when discussing topics related to Japan to show a degree of sensitivity towards the examiner's cultural background, as shown in the following example: “[m]y impression of this town? It looks pretty small. It looks like it's *maybe kind of boring*” (file00013_ns_INT). It is possible that this speaker's utterance might become more direct, using fewer epistemic devices or none at all, such as simply stating *it's boring*, in casual conversations with someone familiar to the speaker or with individuals who do not share a connection to the topic, such as those without a Japanese background. Therefore, the context of this language assessment and the speaker's role are considered potential influencing factors.

7.3.1 Development across the different proficiency level

The results of extracting target epistemic devices in this study show that their use increases as proficiency levels rise. Additionally, the results demonstrate that 33 out of 482 JLE at Level 4, or 6.8%, did not use epistemic devices, followed by 4 out of 236 at Level 5, or 1.7%. The remaining JLE use them at least once during the speaking test. This suggests that epistemic devices are useful and vital for JLE and can serve as indices of proficiency levels. These devices are not merely peripheral items used out of habit, even though some, like *kind of* or *I mean*, are used as fillers.

This overall trend, that higher proficiency groups use more epistemic devices, aligns with previous studies such as Kizu et al. (2022). However, the results of this research are interesting because individual target epistemic markers show complex developmental patterns. Some forms, such as *maybe* and *I mean*, are used more frequently at elementary and intermediate proficiency levels respectively, as indicated by the studies in this thesis

Table 7.1 provides an overview of the distribution of the use of epistemic stance markers by JLE in the spoken data. Figure 7.1 illustrates the mean frequency and the 95% confidence interval, which delineates the upper and lower boundaries within which the true value is anticipated to fall. Distinct differences are evident across the proficiency levels, with Levels 4, 5, and 6 demonstrating a significant increase in mean frequency. There is some degree of overlap in the 95% confidence interval ranges of Levels 7 and 8. The observed fluctuations in Levels 8 and 9 might be attributable to the increased standard deviation, which can be influenced by the smaller number of participants at these levels. Additionally, individual differences, such as a speaker repeatedly using a target device, may particularly affect the data for these levels.

Table 7.1 Distribution of use of epistemic devices by JLE in spoken data

Level	Relative frequency	mean	sd	n	CI
4	593.2	5.7	4.5	482	[5.3, 6.1]
5	791.7	9.5	7.6	236	[8.53, 10.5]
6	1185.7	15.6	9.3	130	[14, 17.2]
7	1378.1	19	9.2	77	[16.9, 21.1]

8	1403.9	21.1	12.1	56	[17.9, 24.3]
9	1612	25.9	9.9	40	[22.8, 29]

sd stands for standard deviation, *n* represents number of texts analysed, *CI* is an acronym of confidence interval, which provides upper and lower range.

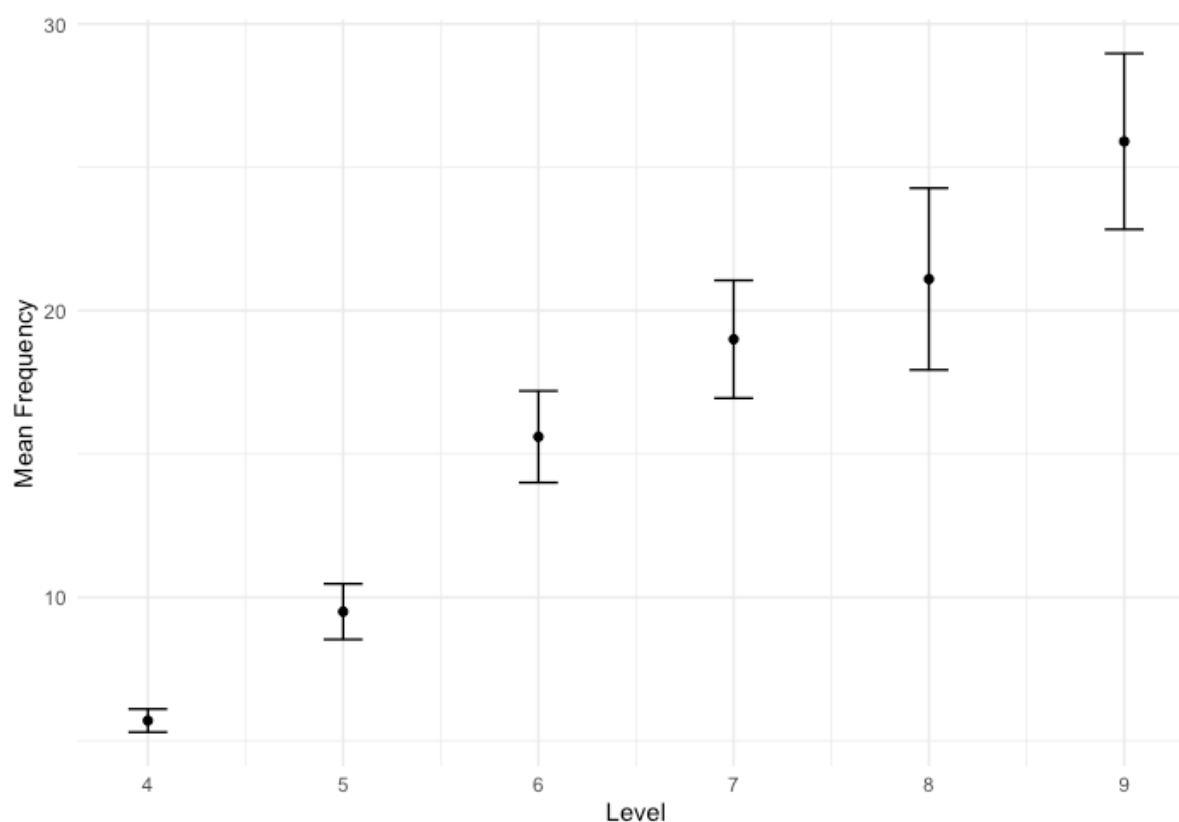


Figure 7.1 Mean frequency of use of epistemic devices in spoken data by JLE

Broadly speaking, significant differences in median frequency are observed across all groups, with the exception of Levels 7 and 8, and Levels 8 and 9. The results of the Kruskal-Wallis one-way analysis of variance by ranks (hereinafter referred to as the Kruskal-Wallis test) reveal significant differences in frequency among the groups ($H = 415.99$, $df = 5$, $p < .001$). Subsequent post hoc analysis utilising the Wilcoxon rank sum test, with adjustments made for multiple comparisons via the Bonferroni method, is summarised in Appendix C. This indicates that there is a statistically significant increase in the usage of epistemic devices from the elementary to lower intermediate levels.

Figure 7.2 provides the proportions of epistemic adverb, verb, and modal verbs and shows that the general pattern is an increase in all parts of speech from low to high levels.

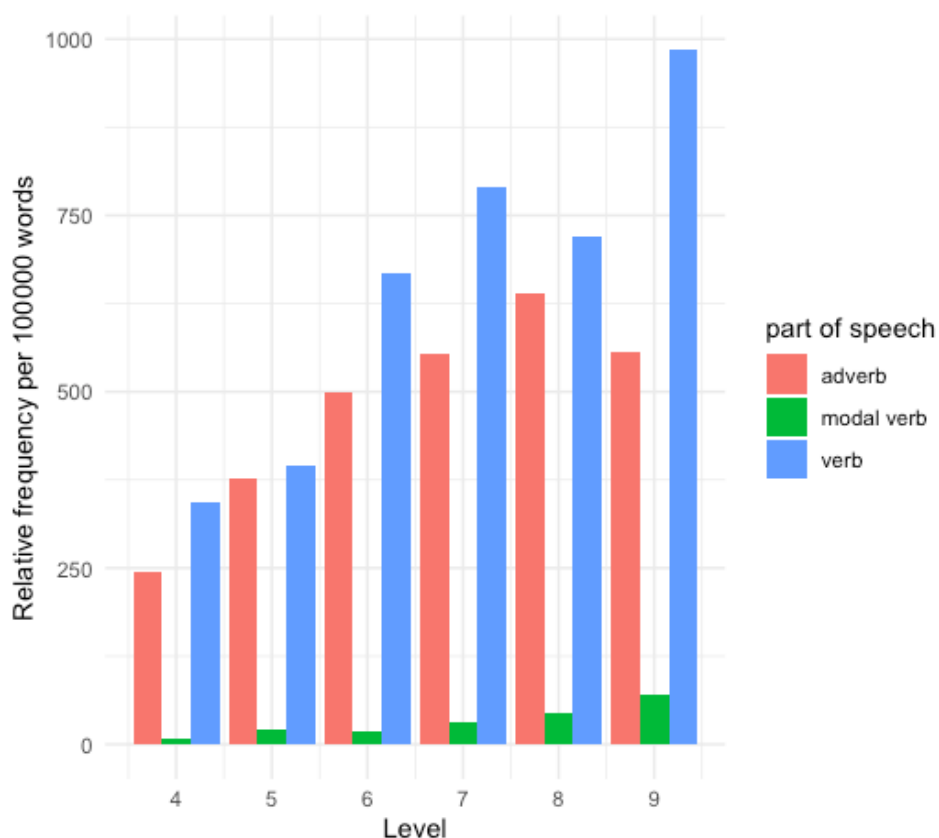


Figure 7.2 Relative frequency per POS across JLE groups in spoken data

Regarding epistemic adverbs, their usage gradually increases with proficiency level, peaking at Level 8 before slightly declining at Level 9. This pattern is attributed to the predominant use of *actually* by the Level 8 group, whereas Level 9 exhibits less frequent usage in this dataset. As illustrated in Figure 7.1 and Table 7.1, the mean frequency for groups at Levels 8 and 9 may display a broader range due to the smaller number of texts analysed, in comparison to lower proficiency groups. Consequently, further sampling should be undertaken. Nonetheless, the findings suggest a trend where certain words are more commonly employed by the upper intermediate and advanced groups, mirroring a similar pattern among NS, which is further explored in Section 7.3.2.

In regard to epistemic verbs, there is an observed gradual increase in usage from Level 4 to Level 7, followed by a decrease at Level 8, and an increase once again at Level 9. This trend is attributed to the frequent use of phrases such as *I think*, *I know*, *I guess*, and *I believe* by the Level 9 group. These suggest that at higher proficiency levels, there is a broader use of verbs across various degrees of certainty. This includes high-value expressions like *I believe* or *I know*, and lower certainty phrases such as *I guess*, alongside *I think*, which falls into the median value range. Such patterns indicate that the advanced group is adept at expressing their thoughts on interpersonal engagement through the use of epistemic stance markers, encompassing both stronger and weaker degrees of certainty.

As for modal verbs, there is a consistent and straightforward increase in usage, with the Level 9 group using them the most. Given that this study focuses on a limited range of modal verbs that convey epistemic meaning and includes random samples for *can* and *could*, these frequencies are understandably lower than those of the other two parts of speech. Specifically, the primary uses of modal verbs for deontic (permission) and dynamic (ability) purposes are not included, although making a distinct separation is not always feasible. This

polysemy may contribute to JLE's moderate reliance on these items, with advanced learners employing them more frequently than those at lower proficiency levels.

Nevertheless, modal verbs are crucial in numerous contexts for hedging assertions. This suggests that teaching the specific epistemic uses of modal verbs, separate from their other functions, could be beneficial. For example, *might* is used more frequently by lower proficiency JLE than *may*, which is more common at advanced levels. This is probably because *might* is primarily used to convey epistemic meaning in conversation, whereas *may* has multiple functions, including deontic use in addition to epistemic use. This indicates that training focusing specifically on epistemic meanings may be effective.

In the written mode, the results of statistic tests indicate a marked transition in the use of epistemic devices from the initial A1 level to higher levels in written work. However, in contrast to the outcomes observed in spoken data, the development across proficiency levels in written data is not consistent.

As illustrated by Table 7.2 and Figure 7.3, the A1 group, corresponding to Level 4 or less, exhibits a frequency of use similar to that of the B1 group, with comparable ranges in the 95% confidence interval; however, the content used by each group varies slightly.

Table 7.2 Distribution of use of epistemic devices by JLE in written data

Level	Relative frequency	mean	<i>sd</i>	<i>n</i>	<i>CI</i>
A1	199.5	2.1	4.3	1611	[1.89, 2.31]
A2	242.9	2.8	4.6	1118	[2.53, 3.07]
B1	482.8	2.2	3.9	868	[1.94, 2.46]
B2	608.6	2.5	4.2	256	[1.99, 3.01]
C1	592.5	3.5	5.2	50	[2.06, 4.94]

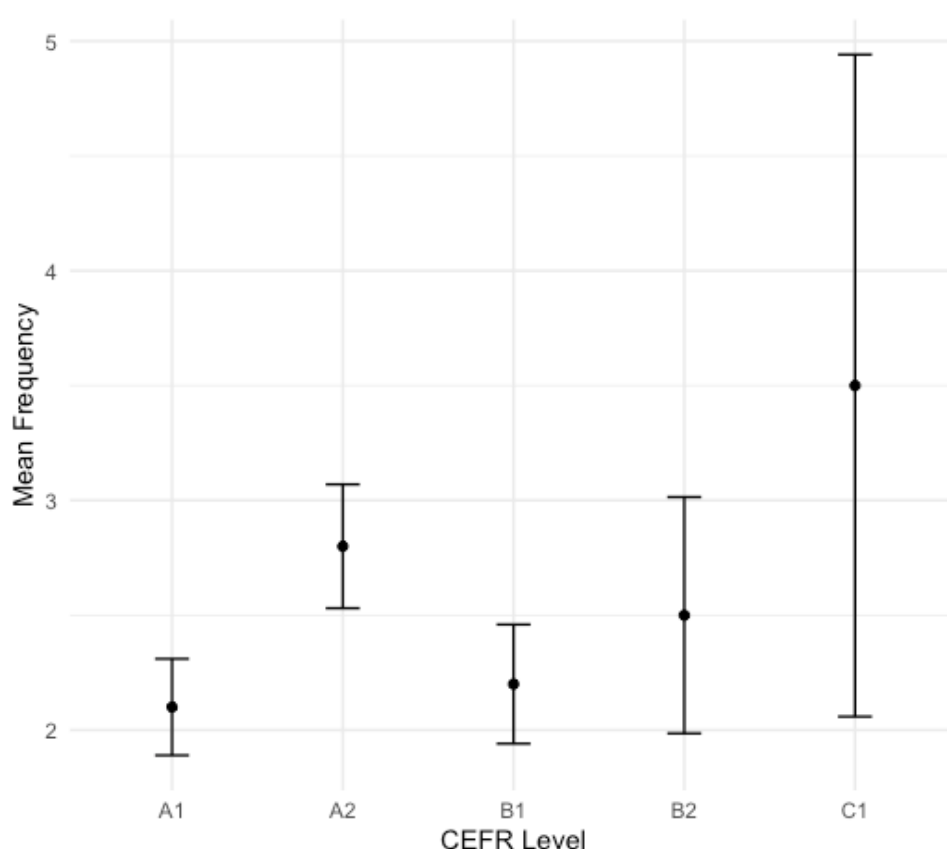


Figure 7.3 Mean frequency of use of epistemic devices in written data by JLE

For instance, the A1 group tends to use *I think* more, while the B1 group demonstrates a greater variety of expressions. The A2 group appears to use epistemic devices more frequently than both B1 and B2 groups; this observation necessitates consideration of the effect of task prompts as discussed in Chapter 3. The mean frequency of the A2 group aligns closely with that of A1 and B1. As indicated in Table 7.3, the upper intermediate B2 group's frequency of occurrence is nearly identical to that of the advanced C1 group, with mean frequencies of 2.5 and 3.5, respectively. Both groups display a relatively wide confidence interval, attributable to the small number of writers in these categories. This study underscores the importance of gathering data more from advanced learners when analysing learner corpora.

The outcomes of the Kruskal-Wallis test reveal a significant difference among the groups in the writing data ($H = 63.641$, $df = 4$, $p < .001$), indicating a variance in the frequency of epistemic device usage. The results of post hoc tests, detailed in Appendix C, highlight statistically significant differences between the A1 group and all subsequent groups. However, within the other group comparisons, such as A2 and B1 ($p = 1.0$), B1 and B2 ($p = .069$), and B2 to C1 ($p = .11$), no significant differences emerge. This difference in usage patterns from the spoken data is further illustrated in the breakdown by part of speech as shown in Figure 7.4.

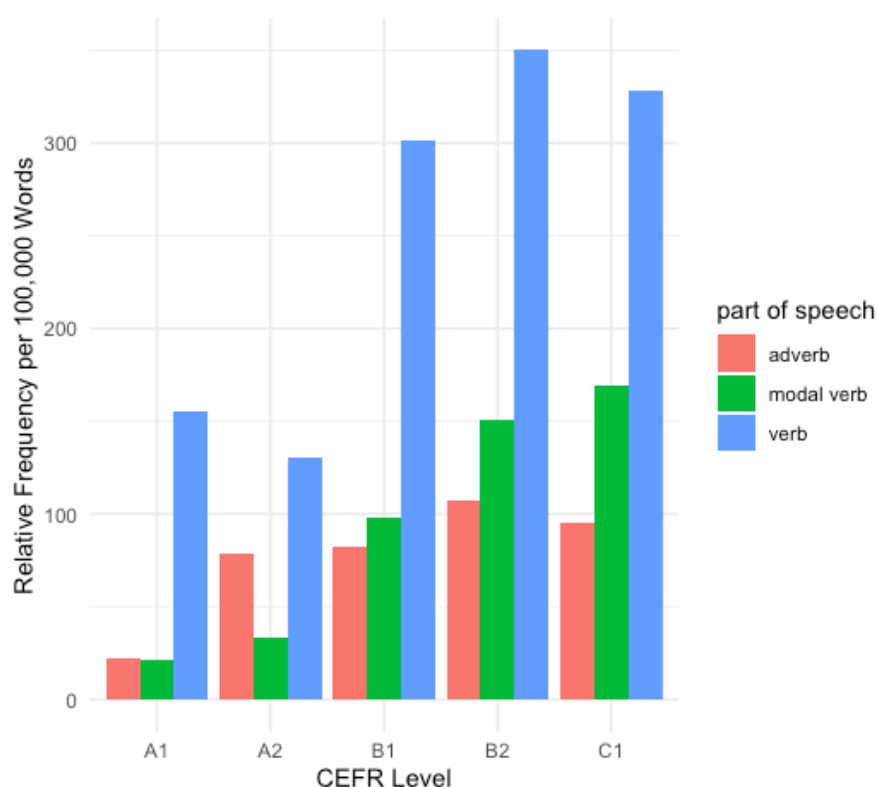


Figure 7.4 Relative frequency per POS across JLE groups in written data

Epistemic adverbs constitute a smaller proportion in writing than in speaking, and the gap in usage of modal verbs narrows, with modal verbs even surpassing the use of adverbs in B1 and beyond, compared to spoken data. This can be observed in the frequency of *could*, *may*, and *might*, particularly in intermediate and advanced groups, as detailed in the corresponding sections. These patterns may arise from the inherent nature of writing, which allows for planning and thus may alleviate some of the challenges associated with using modal verbs. Additionally, as stated in the earlier section 7.2.1, this feature of writing may

affect the results, i.e., the less frequent use of adverbs such as *maybe*, since the writer can confirm before outputting.

The analysis progresses by examining both spoken and written modes from the perspective of the epistemic device's value. Table 7.3 provides a detailed breakdown of these devices by proficiency level across spoken and written data.

Table 7.3 Breakdowns to SFL values in spoken and written data

Value	Speaking						writing				
	Lv4	Lv5	Lv6	Lv7	Lv8	Lv9	A1	A2	B1	B2	C1
high	16.5	26.1	42.1	30.2	54.7	68.5	10.8	25.1	100	212	198
median	444.3	538.5	750.1	798	770.3	918.9	157	145	187	168	145
low	74.1	75.1	132.1	196.2	174.7	313.1	27.9	62.6	177	194	222

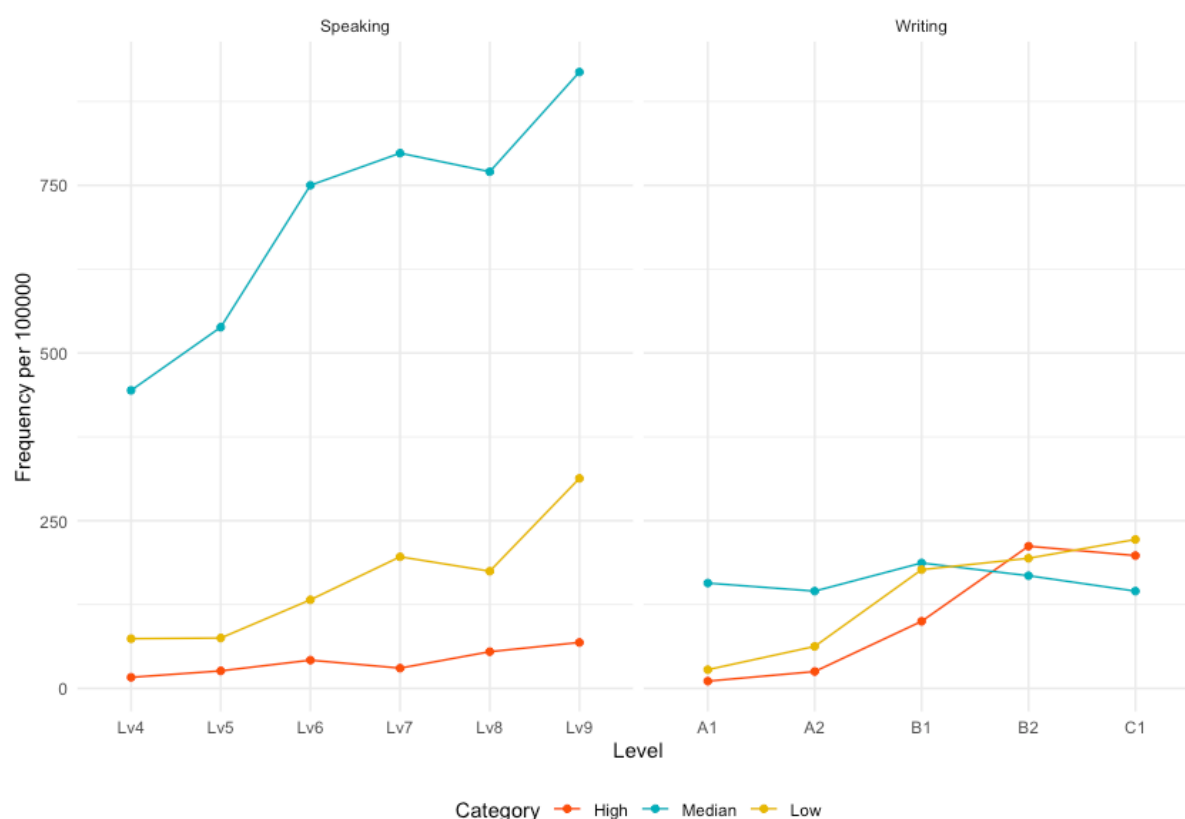


Figure 7.5 Comparison of the frequency of epistemic devices in speaking and writing

Figure 7.5 delineates the similarities and divergences in the use of epistemic devices between oral and written modes. A pronounced disparity is observed in the frequency of median and high-value categories. The median category encompasses devices such as *maybe*, *I think*, and *probably*, which occur with greater frequency in speaking. *Maybe*, in particular, emerges as the predominant term employed by JLE to express uncertainty about described entities, playing a crucial role in face-to-face communication. Conversely, the usage of these devices markedly diminishes in written form, which can be attributed to the JLE having more time to reflect. Given the opportunity to consult others or access resources outside of an exam setting—activities not permitted during the EFCAMDAT data collection—the frequency of these devices might decline even further.

Another noteworthy distinction emerges in the employment of high-value forms. In oral communication, their usage does not increase with increasing proficiency levels. This phenomenon may be attributed to the nature of tasks or topics featured in the SST, potentially obviating the need for a pronounced commitment or conviction. In contrast, tasks within EFCAMDAT occasionally prompt participants to employ such devices, including *I believe* or *definitely*. The inherent aspect of writing, specifically the additional time JLE have to contemplate, likely influences this usage. Moreover, there may be a perception among JLE that employing words conveying strong certainty is essential for persuading readers in the absence of direct interaction. As stated in Section 7.2.1, one possible reason for this is that there is no chance for back-and-forth discussion and persuasion, or reaching any other goals, and therefore the writer has only one opportunity to make their point and has to be assertive. In contrast, in speech and conversation, there is more time to get to the point if necessary. Low-value items exhibit a similar pattern in both speaking and writing. However, as previously mentioned, JLE tend to use modal verbs more frequently in writing and rely less on adverbs such as *maybe*, while *actually*, *kind of*, and *sort of* are more commonly used in spoken data.

7.3.2 Comparison to native speakers of English

The comparison with the use of epistemic devices in spoken contexts by native speakers of English (NS) illustrates a complex picture of the usage quantitatively and qualitatively. A mixture of NS groups has been used for comparison in this study. The spoken data is derived from the NICT JLE corpus and consists of the data from native speakers of American English. For Chapters 3, 4, and 5, this spoken dataset is used solely for comparison. In contrast, in the comparison presented in Chapter 6, original data collected via an online writing task are used, which comprises data from participants whose first language is British English. In this section, first, findings from previous chapters are summarised, relating to spoken contexts, before written data is considered at the end of the section.

In this thesis, as described in Section 2.2.2, the use of epistemic devices by NS are analysed and compared with JLE. This is justified in this thesis because the native speaker model is still beneficial as a reference point for teaching and learning English in an expanding circle country such as Japan. Traditionally, resources produced by NS are precious in EFL settings, and this is still the case. Additionally, teachers and researchers are familiar with this category of English (Taguchi & Ishihara, 2018) and there is a strong demand from learners as they want to learn English to be able to speak or write like inner circle model native speakers (Kachru, 1985). In particular, pragmalinguistic knowledge, such as the use of epistemic stance markers, needs to be explicitly addressed in teaching (Fordyce, 2014). Therefore, NS data is essential as a reference to understand how these markers are typically used in discourse.

However, it should be noted that there are ongoing disagreements regarding the issue of whether native speakers' use of English should still be taken as a model for non-native speakers. First of all, the definition of native speakers of English per se is extremely difficult (Jodaei, 2021). For example, if the definition is based on the country a person comes from, individuals who emigrated during childhood to a non-English-speaking country might be included. However, they may not possess the same level of linguistic fluency as speakers who have lived in English-speaking countries for longer, and objectively assessing this is challenging. In contrast, if the definition relies on the capacity to produce fluent, spontaneous discourse in English, this can be achieved by some learners, and it is also possible for learners to have a better command of English than those from English-speaking countries (Davies, 1995).

Furthermore, in language education, there is a growing demand to develop pedagogical norms which reflect World Englishes, English as a Lingua Franca, or English as an International Language. Kachru (1985) conceptualises the three-circle model based on regional distinctions. The inner circle comprises countries where English serves as a first language, such as Australia, Canada, the United Kingdom, and the United States. The outer circle includes countries such as India, Hong Kong, and Singapore, where English is primarily used as a second language alongside other national languages. Finally, the expanding circle consists of countries like Japan, where English is generally learned as a foreign language. In these contexts, pedagogical norms have traditionally been based on the usage of inner-circle speakers. However, this regional segmentation does not necessarily reflect the actual use of English worldwide. To address this, the term English as a Lingua Franca (ELF) is used to describe a more fluid and dynamic situation where English is used by speakers of different L1s. Uniting these notions, Rose and Galloway (2019) incorporate EFL varieties in their Global Englishes paradigm, and their proposals are provided within a framework of Global Englishes Language Teaching (GELT). They emphasise the importance of raising awareness of Global Englishes to emancipate learners of English from reliance on a single native-speaker model. For instance, a study demonstrates that increasing awareness of Global Englishes in traditional EFL classrooms in Japan contributes to enhanced self-confidence among JLE (Galloway, 2013). Additionally, in this global era, JLE increasingly interact with people from non-English-speaking countries exclusively, creating a growing demand for diverse pragmatic models (Taguchi & Ishihara, 2018).

Bearing these issues in mind, this section analyses the use of epistemic stance markers by JLE and NS. In this thesis, the definition of NS is based on their self-declared L1, as detailed in Section 2.3.1 for spoken data and Section 2.3.3 for written data.

In Chapter 3 on epistemic adverbs, the mean frequency of each device in spoken data is compared in NS and JLE, using Welch's T-test and it shows the significant difference in the six adverbial: *actually*, *definitely*, *kind of*, *maybe*, *possibly*, and *probably*. These adverbs are used significantly more by NS and all the effect sizes observed a large degree of difference except that for *maybe*, which was a middle effect. Qualitative examination of these show that NS quite frequently hedge their utterance in conversation. *Kind of* and *sort of* are used particularly frequently, as in (12).

- (12) It's something you have to *kind of* do, and it takes a little bit time to get through that certain things. So like those are sort, *sort of like* you *kind of like* have to say like what the problem is, and then just *kind of like* give it sometime to be able to solve itself. (file00016_ns_8)

Another usage of epistemic adverbs is as downtoners, which mitigate the requestive force. This mitigation is realised as part of conventional indirect request form such as *could you maybe* in (13), or *possibly* in (14) and (15), or when added in the end of sentence as an adjunct as in (16). Attention needs to be paid to combinations with other epistemic forms such as verbs or modal verbs.

- (13) So could you *maybe* pick us up at nine-thirty? (file00004_ns_3)
 (14) Mmm well could you get your colleague or *possibly* your manager is better [...]. (file01211_9_3)
 (15) [...] the most annoying way they could *possibly* try to communicate with you. (file00011_ns_1)
 (16) *I guess* that fits the rest of description I could *possibly* say. (file00007_ns_5)

As for epistemic verbs, NS use *I mean*, *I know*, and *seem* more frequently than Levels 6, 7, 8, and 9 of JLE. First, as for *I mean*, it seems probable that JLE would like to use it more but cannot. This is because it is not sufficiently covered on basic language learning courses. *I mean* is often categorised as a discourse marker, which functions similarly to *well*, *oh*, *you know* and so forth. Markers of this kind play an active pragmatic role in sentences, e.g., for hedging, yet are considered semantically or syntactically less significant than other grammatical elements such as main verbs or subject and object nouns. Therefore, they tend to be underrepresented in education, despite their importance in communication.

In their study, Chino and Mineshima (2016) explore the challenges faced by Japanese university students learning English in the use of discourse markers. They suggest that the educational focus on formal speech preparation, rather than on spontaneous conversation in the classroom, may limit learners' opportunities to utilise discourse markers as a means of gaining time to think. This approach potentially neglects the development of skills in using these linguistic tools effectively. The researchers also highlight a predominant reliance on the phrase *I think* by JLE, even in contexts where a variety of other discourse markers could be more appropriate. They advocate for a broader immersion in the use of alternative markers, including *I mean*.

Furthermore, Beeching (2016) notes the diverse applications of *I mean*, suggesting its utility extends beyond simply gaining time or providing clarification. Example (17) illustrates this. *I mean* is used in the first line as a hedging device to mitigate the assertion while the speaker is conveying the reason the landlord needs to come and fix the door, even after the landlord has declined. This is a good example of usage beyond simply stalling for time. The speaker utilises *I mean* four more times in this short conversation. The remaining uses serve as fillers or clarifications, but are also useful for enhancing the speaker's communicative effectiveness. Especially in line 5, *I mean* is used with other discourse markers such as *well* and *you know*, and *I don't know* and *maybe* function to soften their insistence as well.

(17)

1 Yeah, I understand that. But *I mean* that it's cold, and the window is broken
 2 and, *I mean*, er what I'm going to do it with it? if.
 3 <A>Yeah. *I know*. I have some emergency matters I have to take care right
 4 now.
 5 Well. This is emergency, too, you know. *I mean*, *I don't know* maybe some
 6 broke in or something. But, *I mean*, eh it's it's dangerous, too, if the wi window is
 7 broken. *I mean* someone can come in easily, too. I live here alone.
 (file00319_9_3)

These varied uses of *I mean* and other discourse markers or epistemic devices enhance the flow of communication for JLE. This insight underscores the importance of exposing learners to the wide range of functions that these devices can serve in effective communication.

JLE may not use modal verbs in all the same contexts as NS do, as certain contexts demand a higher level of syntactic understanding. For instance, JLE use *could* less frequently than NS and one reason is that NS use the preterite form *could have* more frequently than JLE. This contributes to the statistically significant difference between JLE and NS. This combination, *could have* and past participle as in (18), requires speakers to understand hypothetical tense, which JLE use less frequently.

(18) Just nothing worse *could have* happened. (file00010_ns_4)

In addition, *could* is often used with the epistemic adverb *possibly*. Furthermore, as mentioned in the task effects, the combination with *perhaps* or *maybe* when giving advice is also a significant collocation that is not frequently used by JLE although in many cases this combination has dynamic or deontic rather than epistemic meaning.

As for *may*, there is a statistically significant difference between NS and Level 9 ($p < .05$, $r = .70$). JLE are more likely to use *may* deontically, as in requests such as *May I?*, which is not counted for this study, whereas NS use it epistemically as in (19).

(19) And you say this *may* go on sale next week? (file00020_ns_3)

In regard to *might*, the Kruskal-Wallis and post hoc tests reveal statistically significant differences across all compared Levels 6 to 9. It shows a relatively large effect size, e.g., NS-Level 9: $p < .01$, $r = .79$. A notable difference derives from the combination of the modal auxiliary *be able to*, as seen in *might be able to* such as in (20).

(20) So I wonder if you *might* be able to help me out. (file00015_ns_3)

This phraseology *might be able to* by NS constitutes approximately 6.8% of the raw frequency of *might*, but is seldom observed in JLE. This result indicates that *might* alone should be introduced to learners in the early stages of CEFR B1, considering the developmental trajectory. At B2, they can be introduced to more idiomatic phrases such as *might be able to*, broadening their range of expressions.

Chapter 6 focuses on task effects. In order to analyse the interaction between proficiency levels and task type both in spoken and written data, a mixed effects model has been adopted. For the spoken data, the findings in this chapter show that JLE use epistemic devices statistically significantly more frequently than NS in the description task. All the proficiency levels of JLE use the epistemic stance markers most frequently in the description task whereas NS use them more in the interactive task such as in the roleplaying task or in the interview task. This result shows that the proportions of the use of epistemic stance markers by JLE seem to be different from NS. This is because JLE need to manage to complete the tasks with limited vocabularies, as exemplified in (21).

(21) [...] dress is just looking at him *I mean*, seeing him tasting wine. And *maybe* waiter, I should say, or *I don't know*, someone who I forgot the word, but someone who *actually kind of* recommend really good wine to the guest, [...]
(file01207_8_DES)

NS use epistemic devices most frequently in the roleplaying task, followed by the interview task. It is most likely that epistemic devices are used to manage the interaction between the interviewer and the interviewee, allowing them to maintain a socially expected distance. For example, these devices help in avoiding being too direct when stating something negative. In (22), the NS appears to avoid saying *boring* to describe the feelings about the town by hedging with *maybe* and *kind of*. This might be at least partly because the interviewer is from the country where the town being discussed is located.

(22) My impression of this town? It looks pretty small. It looks like it's *maybe kind of* boring. (file00013_ns_INT)

In fact, NS use epistemic devices as an indicator of uncertainty as well, but the weight seems to be more on the adjustment devices of interaction between speakers. In the case of JLE, the higher proficiency, the greater a shift to similar usage can be seen.

The frequent use of epistemic devices in the description task enables learners to express uncertainty in English, facilitating continuous monologue such as a picture description task. However, excessive reliance on these markers could impede the clarity of communication. While the quantity of these utterances could contribute to scoring in a speaking test, it might not necessarily be beneficial in everyday conversations. For example, if a learner frequently uses epistemic devices, as in (23), due to their low self-esteem about their language skills or in an attempt to be less direct, the interlocutor might think the speaker lacks confidence. Further research into the appropriate frequency or usage of epistemic markers, although not covered in this thesis, is crucial for effective language acquisition.

(23) [...] *maybe* we haven't *maybe* usually so we haven't *maybe* some some board board and or something. (file00789_6_INT)

For the writing data, the tasks are categorised as descriptive, narrative and speech act as EFCAMDAT uses a different categorisation from the NICT JLE corpus. Findings show that compared to the spoken data, a similar distribution of the use of epistemic devices is found. Overall, JLE use statistically significantly more epistemic devices in the speech act task. This is understandable as in the task writers are frequently required to respond to the tasks, such as giving advice or rejecting an invitation, which can be potentially face-threatening acts. However, the breakdown of the analysis by proficiency group shows a similar pattern to the spoken data. CEFR A2 group use epistemic devices in the speech act task more frequently than in the descriptive task, yet there is no significant difference. B1 group use them more in the descriptive task than in the speech act task with statistically significant difference, which contracts to the results of overall JLE data. Intermediate and advanced groups, B2 and C1, use epistemic devices in the speech act task more than other two tasks with significant difference. This results again indicates that the higher the proficiency level, the more pragmalinguistic or sociopragmatic knowledge is reflected in the task.

The writing data by native speakers of British English are qualitatively compared to the JLE data. Topic 5, which involves giving advice to the colleague who suffers from a phobia shows a noticeable difference. NS show sympathy with the phrase *I know* in (24) and makes a tentative suggestion with *could* and *might* with the combination with *maybe* or *perhaps* in (25), while JLE attempt to emphasise using *I believe* such as in (26).

(24) Ian, I've been thinking about the convo we had about your claustrophobia. *I know* it's hard and difficult and not helping with work, but I've done some research (file6_5)

(25) *Perhaps* you could try these out and we can discuss in our next session? (file4_1)

(26) [...] me to advice that you consult with a doctor first before hurrying up resignation. *I believe* that the company can support you. sincerely yours, Ken (39637_B2_82_SA)

Both findings from the spoken and written data show the importance of taking account of task differences. For example, it would be beneficial to give instruction on how to use epistemic stance markers in an interpersonal way through the roleplaying task or the

speech act task, especially around CEFR B1 level of JLE. In the advanced group, it might be argued that too many instances of epistemic devices impede clarity of utterance.

In this study, data was gathered from NS to build a small reference corpus comparable to EFCAMDAT, using an online writing survey. The results of analysing the data show the frequent occurrence of epistemic stance markers in the speech act task, especially Topic 5, which elicits advice for the colleague with claustrophobia. Here, the highest task complexity succeeds in eliciting epistemic devices. In other topics (1, 2, 3, 4, and 6), which are less complex, NS use epistemic devices less frequently, as detailed in Table 6.20 in Chapter 6. In this regard, the study presents the potential of the usefulness of native speakers' reference data. However, the data are limited to the specific task and topic, and the restriction of the data scale makes it difficult to incorporate into the current mixed effect model. Therefore, further data gathering could provide insights into the analysis using the mixed effects model.

7.3.3 Implications from the research

The analysis of epistemic device usage by JLE reveals a distinction between high-frequency groups, such as *I think* or *maybe*, and low-frequency groups, such as *possibly* or *definitely*, in spoken data. Conversely, in written form, fewer epistemic adverbs and more high-value verbs such as *I believe*, along with the modal verb *might*, are commonly used, whereas *maybe*, which is frequently used in speech, is less common. As demonstrated in previous chapters, the majority of the target devices in this research are more frequently used by NS, with many showing statistically significant differences. This suggests that, broadly speaking, more frequent use of these items could improve learners' flow and effectiveness of communication in both speaking and writing rather than following presumed native speakers' norms (Kizu et al., 2022; Taguchi & Ishihara, 2018). However, this argument is context dependent. In the case of Academic English, for example, overly frequent use of epistemic stance markers can sound less confident about propositions the writer or speaker makes. For example, findings of Taymaz (2021) show that MA students use epistemic markers to convey uncertainty more frequently than PhD students, while boosters are used more frequently by PhD students, concluding that this may result partly from PhD students' wider range of academic experiences. Nevertheless, as highlighted earlier in this chapter, JLE, particularly university students, may have more opportunities to practise formal speeches with a draft such as a presentation, which could partly explain the lack of experience in using these markers. In this context, it would be beneficial to provide JLE with opportunities to use these markers in appropriate task design, contents, such as the interactive tasks addressed in this research.

The different expressions present different difficulties for learners, who might require training to enhance understanding of multifaceted nature of vocabulary as early-stage learners often associate a single word with only one meaning. My research suggests that modal verbs are particularly challenging because of their multiple meanings, and are one area in which training would be beneficial. Specifically, greater focus should be placed on the epistemic use of modal verbs over their deontic or dynamic counterparts, as distinguishing between these uses is essential yet challenging for learners. Semantically, the use of *could* to indicate possibility, and syntactically, combinations such as *might* with *be able to* or *could/might have* with past participle, warrant closer attention as the data shows that JLE are less likely to use these combinations. The pedagogical implications of my findings are that explicit teaching may be beneficial, and other research supports this suggestion. Fordyce (2014) shows a significant difference in effectiveness between explicit and implicit teaching of these types of forms. The results indicate that teaching epistemic devices explicitly is more effective; however, the effects are rather limited to the higher proficiency level and gradually decline after six months in a post-hoc test. In addition, to raise learners' awareness of epistemic markers, the data from this research can be effectively applied using the concept of data-

driven learning (DDL, Johns, 1991), which is an “approach in which learners take an inductive approach to examples of language” (Hunston, 2022, p. 174). This approach can enhance learners’ metalinguistic awareness (Meunier, 2019). For example, learners could extract data from corpora to explore the use of *could* to indicate possibility and analyse its contexts of use (O’Keeffe et al., 2007), such as the purpose of communication, the situation, the roles of speakers, and power dynamics between speakers or writers. Teachers can also supplement this with graphs showing the distribution of usage across proficiency levels or the differences between NS and JLE observed in this research, helping students to better understand uses they might not have previously noticed.

Implicit learning through communicative instruction can also be effective as long as learners’ motivation, especially intrinsic motivation is high (Takahashi, 2005). Takahashi (2005) investigates pragmalinguistic awareness in relation to motivation and proficiency levels, and findings indicate that learners’ awareness is correlated with motivation rather than proficiency. This suggests that “if we could increase learners’ motivation in one way or another, we might be able to increase the chances that they notice pragmalinguistic features in implicit conditions” (pp. 113-114). This could include a situation like classroom teaching before studying abroad where learners’ motivation increases. The findings from this research can also contribute to enhancing learners’ motivation by enabling teachers to present examples of how frequently epistemic devices are used by advanced JLE and NS, and to demonstrate their importance in preserving positive face. For example, this could include showing sympathy through expressions like *I know* or mitigating potentially face-threatening acts such as requests.

The appropriate timing for introducing specific linguistic elements is crucial for effective language acquisition. For instance, with regard to *might*, the developmental trajectory suggests that learners begin to use *might* more frequently and consistently around the CEFR B1 level. Thus, JLE at this level should primarily focus on mastering *might* in its simpler forms, rather than introducing syntactically complex constructions such as *might be able to* or *might* with a past participle, in alignment with the developmental patterns demonstrated in this research. At the B2 level, learners can be introduced to more idiomatic expressions, such as *might be able to*, which are less frequently used by JLE, thereby broadening their linguistic repertoire. Another example is the use of *I guess*, which is frequently used as a hedge, particularly in conversation, and should be taught at the B1 to B2 levels. While the verb *guess* is classified as A1 level in the *Genius English-Japanese Dictionary, 6th Edition*, findings from the current research show that *I guess* is less commonly used by JLE, except for Level 9 group, who are closer to C1. This suggests that the function of epistemic stance markers needs to be taught separately from their literal meaning, and intermediate learners are ready to learn these functions. The DDL approach mentioned earlier in this section is applicable for this purpose and can also be used to expose learners to authentic language (Meunier, 2019), extending beyond the data collected through language assessments and used in the current research.

Explicitly mentioning the use of epistemic forms in the rubric of language assessments may impact the awareness of JLE, teachers, and material designers. In fact, as noted in the introduction of this thesis, the multifunctionality of epistemic markers is often deprioritised in language examinations in favour of other components, such as understanding less frequent (and therefore what is considered higher-level) vocabulary. In the context of EFL in Japan, reviewing the washback effect (Messick, 1996), i.e., the influence of language tests on teachers and learners, would be beneficial in terms of acquiring epistemic forms. According to the Common European Framework of Reference for Languages (Council of Europe, 2001), epistemic modality is frequently used at an advanced (C1) level (Pyykönen, 2023). This aligns with the findings of this study, where a wider range and more frequent use

of epistemic stance markers are observed. However, as discussed in the previous paragraph, increasing awareness of these forms at an earlier stage, such as CEFR B1, may also be beneficial.

7.3.4 Limitation and future direction

In the research studies presented here, a variety of tasks have been examined to analyse the use of epistemic stance markers in detail. However, the scope is confined by the employed corpora or collected data. For instance, academic discourse or professional language might reveal different facets of stance-taking. In contrast, data from learner corpora may restrict the use of epistemic devices, as participants are generally not required to express their genuine knowledge or opinion. Moreover, their interactions during the tasks are rather artificial (e.g., instructor A vs. participant B in the NICT JLE corpus) and likely differ from their real-life communications. While the findings of this study are significant, analysing diverse types of data could provide further insights.

EFCAMDAT is a useful resource for learners' writing data. Nevertheless, it should be noted that there may be effects on learners' choice of expressions elicited by task instruction or prompt in focusing on specific expressions. For example, as noted in Chapter 4 in this research, use of *I think* increases as the instruction provides participants with a phrase *I think you should* to give advice in the task. In this study, this type of effect is treated carefully. However, not all supporting materials used in tasks can be examined as due to copy right restrictions. In addition, the data collected through the online task is limited in size and therefore the topics compared to JLE are restricted only in the speech act task. Expanding writing corpora collected from native speakers of English through the identical tasks as learners undertake would be beneficial for a comparative approach that is employed by this thesis.

The NICT JLE corpus is valuable as it provides rich meta-data such as information about type of tasks, but it is limited in that it lacks phonological resources. Therefore, this thesis does not discuss this aspect of epistemic markers. This is an important aspect that needs further research as epistemic stance is not only expressed linguistically but also phonologically. For example, the intonation in *I think* can be used to emphasise an opinion (Kaltenböck, 2010). These phonological nuances can significantly impact face-to-face communication, especially when a speaker needs to amplify or soften their stance.

This research attempts to triangulate the analysis by using different data types both in spoken and written data and proficiency levels and different task types. However, in order to consider effects on use of epistemic devices, there are many other factors which play a role, and which have not been addressed in this study such as gender, age, and experience studying abroad. In terms of differences in gender and age, the focus in the current study of applying results to classroom settings in university contexts has meant these are less prioritised in this research. However, if application of the results is expanded outside of the classroom, they are also important factors which will need to be considered.

7.4 Conclusion

This research has explored the use of epistemic devices by JLE, aiming to 1) reveal the developmental pattern across elementary to advanced proficiency level, 2) to examine the use of epistemic devices in the spoken and written data, and 3) to consider the effect of task types on speakers' choices, comparing JLE with native speakers of English. Findings generally corroborate those of previous studies, in that JLE rely on adverbs and verbs over modal verbs to realise epistemic modality; as proficiency level rises, more variety of epistemic devices are used and their frequency of occurrence rises as well. However, the findings also indicate a

non-linear and complex developmental pattern by JLE. For example, in the spoken data, an adverb *maybe* is used more frequently by intermediate group such as Levels 5 and 6 than advanced group Level 9, but used statistically significantly more frequently by NS than Level 9. This result suggests that *maybe* is used not only to convey uncertainty, but for other purposes, for example, to mitigate their utterance in asking for something. An instance can be seen in a phrase used by NS like *could you maybe...?* or *could you..., maybe?*. These findings underscore the importance of exposing learners to the wide range of functions that epistemic devices can serve in effective communication.

The insights provided by this research arise from its close analysis, focusing on epistemic stance markers, and its triangulation by different data types, proficiency levels, and task types. In Chapters 3 to 5, epistemic devices are analysed qualitatively per part of speech in both oral and written contexts. Chapter 6 discusses the possible effect of task types using a mixed-effects model. Additionally, non-epistemic uses, such as *may* and *kind of* used as nouns or *I think* as a cognitive act, are manually excluded in order to enhance the accuracy of analysis, as discussed in Section 2.4.1. Therefore, the methodology employed in this research provides insights into the complex picture of L2 pragmatic competence through the analysis of the use of epistemic devices by JLE, beyond mere observation of concordance lines.

For future research, it is important to expand the research to other disciplines and registers, such as academic English, to examine other possible effects on the use of epistemic stance markers such as sociopragmatic variable and the experience of studying abroad, and to utilise phonological data to gain a more complete picture of the use of epistemic stance markers.

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Appendix A: Complete Version of Table 6.2 - Coefficients for the fixed effects

For the sake of conciseness in Chapter 6, the full version of Table 6.2 is presented in Appendix A. LEVEL10 indicates native speakers of English (NS).

term	estimate	std.error
(Intercept)	1.44	0.07
LEVEL5	0.42	0.1
LEVEL6	1.02	0.12
LEVEL7	1.04	0.15
LEVEL8	0.94	0.18
LEVEL9	1.88	0.23
LEVEL10	0.39	0.23
TASKinterview1	0.98	0.08
TASKinterview2	0.83	0.21
TASKnarrative	1.18	0.08
TASKroleplay	1.14	0.08
LEVEL5:TASKinterview1	0.22	0.12
LEVEL6:TASKinterview1	0.55	0.15
LEVEL7:TASKinterview1	0.17	0.18
LEVEL8:TASKinterview1	0.27	0.21
LEVEL9:TASKinterview1	1.07	0.26
LEVEL10:TASKinterview1	0.64	0.29
LEVEL5:TASKinterview2	0.35	0.28
LEVEL6:TASKinterview2	0.11	0.33
LEVEL7:TASKinterview2	0.54	0.39
LEVEL8:TASKinterview2	0.06	0.58
LEVEL9:TASKinterview2	0.81	0.47
LEVEL10:TASKinterview2	6.84	0.36
LEVEL5:TASKnarrative	0.37	0.12
LEVEL6:TASKnarrative	0.75	0.15
LEVEL7:TASKnarrative	0.83	0.18
LEVEL8:TASKnarrative	0.61	0.21
LEVEL9:TASKnarrative	1.36	0.27
LEVEL10:TASKnarrative	0.3	0.31
LEVEL5:TASKroleplay	0.15	0.12
LEVEL6:TASKroleplay	0.24	0.15
LEVEL7:TASKroleplay	0.22	0.18
LEVEL8:TASKroleplay	0.02	0.21
LEVEL9:TASKroleplay	0.59	0.26
LEVEL10:TASKroleplay	1.2	0.29
sd__ (Intercept)	0.34	NA
sd__ Observation	0.86	NA

Appendix B: Results of the Pairwise Test

The purpose of Appendix B is to present the results of the post hoc pairwise test. These tests elucidate statistically significant differences between:

1. Proficiency levels within a specific task in spoken data.
2. Tasks within a specific proficiency level in spoken data.
3. Proficiency levels within a specific task in written data.
4. Tasks within a specific proficiency level in written data.

The numeration 1 to 4 above corresponds to the subsequent section headings.

1. Contrast in Proficiency Level within a Task for Spoken Data

The R codes and their descriptions

```
> library(emmeans)
> pairs(emm_task, simple = "each", by = "TASK")
$`simple contrasts for LEVEL`
Degrees-of-freedom method: asymptotic
P value adjustment: tukey method for comparing a family of 7 estimates
```

TASK = description:

contrast	estimate	SE	df	z.ratio	p.value
LEVEL4 - LEVEL5	-0.4181	0.1012	Inf	-4.133	0.0007
LEVEL4 - LEVEL6	-1.0249	0.1235	Inf	-8.3	<.0001
LEVEL4 - LEVEL7	-1.0372	0.1527	Inf	-6.792	<.0001
LEVEL4 - LEVEL8	-0.9416	0.1806	Inf	-5.213	<.0001
LEVEL4 - LEVEL9	-1.8824	0.2262	Inf	-8.322	<.0001
LEVEL4 - LEVEL10	-0.3903	0.2282	Inf	-1.71	0.609
LEVEL5 - LEVEL6	-0.6069	0.128	Inf	-4.742	<.0001
LEVEL5 - LEVEL7	-0.6191	0.1563	Inf	-3.96	0.0015
LEVEL5 - LEVEL8	-0.5236	0.1837	Inf	-2.85	0.066
LEVEL5 - LEVEL9	-1.4643	0.2287	Inf	-6.404	<.0001
LEVEL5 - LEVEL10	0.0278	0.2306	Inf	0.121	1
LEVEL6 - LEVEL7	-0.0123	0.1716	Inf	-0.071	1
LEVEL6 - LEVEL8	0.0833	0.1969	Inf	0.423	0.9996
LEVEL6 - LEVEL9	-0.8575	0.2394	Inf	-3.582	0.0063
LEVEL6 - LEVEL10	0.6347	0.2412	Inf	2.631	0.1167
LEVEL7 - LEVEL8	0.0956	0.2164	Inf	0.442	0.9994
LEVEL7 - LEVEL9	-0.8452	0.2557	Inf	-3.306	0.0165
LEVEL7 - LEVEL10	0.6469	0.2574	Inf	2.513	0.1544
LEVEL8 - LEVEL9	-0.9408	0.2733	Inf	-3.442	0.0103
LEVEL8 - LEVEL10	0.5514	0.2749	Inf	2.006	0.411
LEVEL9 - LEVEL10	1.4921	0.3068	Inf	4.864	<.0001

TASK = interview1:

contrast			estimate	SE	df	z.ratio	p.value
LEVEL4	-	LEVEL5	-0.1991	0.0737	Inf	-2.703	0.0974
LEVEL4	-	LEVEL6	-0.4706	0.0916	Inf	-5.136	<.0001
LEVEL4	-	LEVEL7	-0.8683	0.1138	Inf	-7.632	<.0001
LEVEL4	-	LEVEL8	-0.6766	0.1309	Inf	-5.169	<.0001
LEVEL4	-	LEVEL9	-0.8131	0.1525	Inf	-5.33	<.0001
LEVEL4	-	LEVEL10	-1.0278	0.2116	Inf	-4.858	<.0001
LEVEL5	-	LEVEL6	-0.2715	0.1013	Inf	-2.681	0.103
LEVEL5	-	LEVEL7	-0.6693	0.1217	Inf	-5.501	<.0001
LEVEL5	-	LEVEL8	-0.4775	0.1378	Inf	-3.465	0.0096
LEVEL5	-	LEVEL9	-0.614	0.1585	Inf	-3.873	0.0021
LEVEL5	-	LEVEL10	-0.8287	0.2159	Inf	-3.838	0.0024
LEVEL6	-	LEVEL7	-0.3978	0.1333	Inf	-2.984	0.0451
LEVEL6	-	LEVEL8	-0.206	0.1482	Inf	-1.39	0.8074
LEVEL6	-	LEVEL9	-0.3425	0.1676	Inf	-2.043	0.3871
LEVEL6	-	LEVEL10	-0.5572	0.2227	Inf	-2.502	0.1583
LEVEL7	-	LEVEL8	0.1918	0.1628	Inf	1.178	0.9026
LEVEL7	-	LEVEL9	0.0553	0.1807	Inf	0.306	0.9999
LEVEL7	-	LEVEL10	-0.1594	0.2327	Inf	-0.685	0.9934
LEVEL8	-	LEVEL9	-0.1365	0.1919	Inf	-0.711	0.992
LEVEL8	-	LEVEL10	-0.3512	0.2415	Inf	-1.454	0.7719
LEVEL9	-	LEVEL10	-0.2147	0.2539	Inf	-0.846	0.9801

TASK = interview2:

contrast			estimate	SE	df	z.ratio	p.value
LEVEL4	-	LEVEL5	-0.0642	0.2654	Inf	-0.242	1
LEVEL4	-	LEVEL6	-0.9189	0.3097	Inf	-2.967	0.0473
LEVEL4	-	LEVEL7	-0.5015	0.3639	Inf	-1.378	0.8136
LEVEL4	-	LEVEL8	-1.006	0.5607	Inf	-1.794	0.5519
LEVEL4	-	LEVEL9	-1.0755	0.4228	Inf	-2.544	0.1438
LEVEL4	-	LEVEL10	-7.2326	0.2976	Inf	-24.303	<.0001
LEVEL5	-	LEVEL6	-0.8547	0.2902	Inf	-2.945	0.0504
LEVEL5	-	LEVEL7	-0.4373	0.3474	Inf	-1.259	0.8707
LEVEL5	-	LEVEL8	-0.9418	0.5501	Inf	-1.712	0.608
LEVEL5	-	LEVEL9	-1.0113	0.4087	Inf	-2.474	0.1687
LEVEL5	-	LEVEL10	-7.1684	0.2773	Inf	-25.854	<.0001
LEVEL6	-	LEVEL7	0.4174	0.3823	Inf	1.092	0.9308
LEVEL6	-	LEVEL8	-0.0871	0.5728	Inf	-0.152	1
LEVEL6	-	LEVEL9	-0.1566	0.4388	Inf	-0.357	0.9998
LEVEL6	-	LEVEL10	-6.3137	0.3199	Inf	-19.737	<.0001
LEVEL7	-	LEVEL8	-0.5045	0.6038	Inf	-0.835	0.9813
LEVEL7	-	LEVEL9	-0.5739	0.4786	Inf	-1.199	0.8947

LEVEL7	-	LEVEL10	-6.731	0.3726	Inf	-18.064	<.0001
LEVEL8	-	LEVEL9	-0.0695	0.6411	Inf	-0.108	1
LEVEL8	-	LEVEL10	-6.2266	0.5664	Inf	-10.994	<.0001
LEVEL9	-	LEVEL10	-6.1571	0.4303	Inf	-14.308	<.0001

TASK = narrative:

contrast			estimate	SE	df	z.ratio	p.value
LEVEL4	-	LEVEL5	-0.0463	0.0778	Inf	-0.595	0.997
LEVEL4	-	LEVEL6	-0.2753	0.0946	Inf	-2.91	0.0558
LEVEL4	-	LEVEL7	-0.2098	0.1194	Inf	-1.757	0.5772
LEVEL4	-	LEVEL8	-0.3336	0.1334	Inf	-2.5	0.1591
LEVEL4	-	LEVEL9	-0.5175	0.1612	Inf	-3.211	0.0225
LEVEL4	-	LEVEL10	-0.6931	0.2353	Inf	-2.946	0.0503
LEVEL5	-	LEVEL6	-0.229	0.1031	Inf	-2.221	0.2839
LEVEL5	-	LEVEL7	-0.1635	0.1262	Inf	-1.295	0.8544
LEVEL5	-	LEVEL8	-0.2873	0.1396	Inf	-2.058	0.3779
LEVEL5	-	LEVEL9	-0.4712	0.1663	Inf	-2.833	0.069
LEVEL5	-	LEVEL10	-0.6468	0.2388	Inf	-2.709	0.0961
LEVEL6	-	LEVEL7	0.0655	0.1372	Inf	0.477	0.9991
LEVEL6	-	LEVEL8	-0.0583	0.1496	Inf	-0.39	0.9997
LEVEL6	-	LEVEL9	-0.2422	0.1748	Inf	-1.386	0.8098
LEVEL6	-	LEVEL10	-0.4179	0.2448	Inf	-1.707	0.6114
LEVEL7	-	LEVEL8	-0.1238	0.1664	Inf	-0.744	0.9898
LEVEL7	-	LEVEL9	-0.3077	0.1894	Inf	-1.625	0.6663
LEVEL7	-	LEVEL10	-0.4833	0.2554	Inf	-1.892	0.4854
LEVEL8	-	LEVEL9	-0.1839	0.1985	Inf	-0.926	0.9684
LEVEL8	-	LEVEL10	-0.3595	0.2623	Inf	-1.371	0.8175
LEVEL9	-	LEVEL10	-0.1756	0.2774	Inf	-0.633	0.9957

TASK = roleplay:

contrast			estimate	SE	df	z.ratio	p.value
LEVEL4	-	LEVEL5	-0.268	0.0766	Inf	-3.499	0.0085
LEVEL4	-	LEVEL6	-0.7884	0.0935	Inf	-8.431	<.0001
LEVEL4	-	LEVEL7	-0.8148	0.1155	Inf	-7.054	<.0001
LEVEL4	-	LEVEL8	-0.9226	0.1318	Inf	-6.998	<.0001
LEVEL4	-	LEVEL9	-1.2946	0.1534	Inf	-8.442	<.0001
LEVEL4	-	LEVEL10	-1.5894	0.2121	Inf	-7.492	<.0001
LEVEL5	-	LEVEL6	-0.5204	0.1027	Inf	-5.069	<.0001
LEVEL5	-	LEVEL7	-0.5468	0.123	Inf	-4.444	0.0002
LEVEL5	-	LEVEL8	-0.6546	0.1385	Inf	-4.727	<.0001
LEVEL5	-	LEVEL9	-1.0267	0.1591	Inf	-6.452	<.0001
LEVEL5	-	LEVEL10	-1.3215	0.2163	Inf	-6.108	<.0001
LEVEL6	-	LEVEL7	-0.0263	0.1342	Inf	-0.196	1
LEVEL6	-	LEVEL8	-0.1342	0.1485	Inf	-0.903	0.9722

LEVEL6	-	LEVEL9	-0.5062	0.1679	Inf	-3.015	0.0412
LEVEL6	-	LEVEL10	-0.801	0.2229	Inf	-3.594	0.006
LEVEL7	-	LEVEL8	-0.1078	0.1633	Inf	-0.66	0.9946
LEVEL7	-	LEVEL9	-0.4799	0.1811	Inf	-2.65	0.1114
LEVEL7	-	LEVEL10	-0.7747	0.233	Inf	-3.325	0.0155
LEVEL8	-	LEVEL9	-0.3721	0.1919	Inf	-1.939	0.4545
LEVEL8	-	LEVEL10	-0.6669	0.2415	Inf	-2.761	0.0837
LEVEL9	-	LEVEL10	-0.2948	0.2539	Inf	-1.161	0.9086

2. Task Contrast per Proficiency Level in Spoken Data

Description of the analysis in R

\$`simple contrasts for TASK`

Degrees-of-freedom method: asymptotic

P value adjustment: tukey method for comparing a family of 5 estimates

LEVEL = 4:

contrast			estimate	SE	df	z.ratio	p.value
description	-	interview1	0.981974	0.0765	Inf	12.831	<.0001
description	-	interview2	0.826703	0.2123	Inf	3.894	0.0009
description	-	narrative	1.178391	0.0788	Inf	14.955	<.0001
description	-	roleplay	1.140138	0.078	Inf	14.619	<.0001
interview1	-	interview2	-0.155271	0.2058	Inf	-0.754	0.9434
interview1	-	narrative	0.196417	0.0591	Inf	3.326	0.0078
interview1	-	roleplay	0.158164	0.0578	Inf	2.738	0.0486
interview2	-	narrative	0.351688	0.2066	Inf	1.702	0.4325
interview2	-	roleplay	0.313435	0.2064	Inf	1.519	0.5501
narrative	-	roleplay	-0.038253	0.061	Inf	-0.627	0.9708

LEVEL = 5:

contrast			estimate	SE	df	z.ratio	p.value
description	-	interview1	1.200966	0.0913	Inf	13.151	<.0001
description	-	interview2	1.180577	0.184	Inf	6.416	<.0001
description	-	narrative	1.550168	0.0924	Inf	16.786	<.0001
description	-	roleplay	1.290231	0.0922	Inf	14	<.0001
interview1	-	interview2	-0.020388	0.179	Inf	-0.114	1
interview1	-	narrative	0.349202	0.0808	Inf	4.323	0.0001
interview1	-	roleplay	0.089265	0.0806	Inf	1.108	0.8024
interview2	-	narrative	0.36959	0.1796	Inf	2.058	0.2387
interview2	-	roleplay	0.109653	0.1795	Inf	0.611	0.9734
narrative	-	roleplay	-0.259937	0.0819	Inf	-3.175	0.013

LEVEL = 6:

contrast			estimate	SE	df	z.ratio	p.value
description	-	interview1	1.536344	0.1246	Inf	12.331	<.0001

description	-	interview2	0.932731	0.2522	Inf	3.698	0.002
description	-	narrative	1.928054	0.1251	Inf	15.416	<.0001
description	-	roleplay	1.376633	0.1249	Inf	11.021	<.0001
interview1	-	interview2	-0.603613	0.2442	Inf	-2.471	0.0972
interview1	-	narrative	0.39171	0.1077	Inf	3.638	0.0025
interview1	-	roleplay	-0.159712	0.1074	Inf	-1.487	0.5711
interview2	-	narrative	0.995323	0.2445	Inf	4.071	0.0004
interview2	-	roleplay	0.443901	0.2444	Inf	1.816	0.364
narrative	-	roleplay	-0.551421	0.1081	Inf	-5.1	<.0001

LEVEL = 7:

contrast			estimate	SE	df	z.ratio	p.value
description	-	interview1	1.150815	0.1641	Inf	7.014	<.0001
description	-	interview2	1.362362	0.3256	Inf	4.185	0.0003
description	-	narrative	2.005765	0.1665	Inf	12.043	<.0001
description	-	roleplay	1.362551	0.1644	Inf	8.288	<.0001
interview1	-	interview2	0.211547	0.3154	Inf	0.671	0.9627
interview1	-	narrative	0.85495	0.1422	Inf	6.012	<.0001
interview1	-	roleplay	0.211735	0.1395	Inf	1.518	0.5507
interview2	-	narrative	0.643403	0.317	Inf	2.03	0.2515
interview2	-	roleplay	0.000188	0.3156	Inf	0.001	1
narrative	-	roleplay	-0.643214	0.1426	Inf	-4.511	0.0001

LEVEL = 8:

contrast			estimate	SE	df	z.ratio	p.value
description	-	interview1	1.247047	0.1982	Inf	6.292	<.0001
description	-	interview2	0.762337	0.5445	Inf	1.4	0.6276
description	-	narrative	1.786446	0.1987	Inf	8.989	<.0001
description	-	roleplay	1.159187	0.1982	Inf	5.849	<.0001
interview1	-	interview2	-0.48471	0.5334	Inf	-0.909	0.8937
interview1	-	narrative	0.539399	0.1638	Inf	3.293	0.0088
interview1	-	roleplay	-0.08786	0.163	Inf	-0.539	0.9833
interview2	-	narrative	1.02411	0.5336	Inf	1.919	0.3069
interview2	-	roleplay	0.39685	0.5334	Inf	0.744	0.9461
narrative	-	roleplay	-0.627259	0.1638	Inf	-3.83	0.0012

LEVEL = 9:

contrast			estimate	SE	df	z.ratio	p.value
description	-	interview1	2.051298	0.2496	Inf	8.218	<.0001
description	-	interview2	1.63364	0.422	Inf	3.871	0.001
description	-	narrative	2.543325	0.2532	Inf	10.043	<.0001
description	-	roleplay	1.727904	0.2496	Inf	6.923	<.0001
interview1	-	interview2	-0.417658	0.3916	Inf	-1.066	0.8238
interview1	-	narrative	0.492027	0.1987	Inf	2.476	0.096

interview1	-	roleplay	-0.323393	0.1928	Inf	-1.677	0.4481
interview2	-	narrative	0.909685	0.395	Inf	2.303	0.1438
interview2	-	roleplay	0.094264	0.3916	Inf	0.241	0.9993
narrative	-	roleplay	-0.81542	0.1987	Inf	-4.104	0.0004

LEVEL = 10: contrast			estimate	SE	df	z.ratio	p.value
description	-	interview1	0.344478	0.2809	Inf	1.226	0.7359
description	-	interview2	-6.015588	0.289	Inf	-20.817	<.0001
description	-	narrative	0.875545	0.2988	Inf	2.93	0.028
description	-	roleplay	-0.059029	0.2809	Inf	-0.21	0.9996
interview1	-	interview2	-6.360066	0.2809	Inf	-22.644	<.0001
interview1	-	narrative	0.531067	0.2908	Inf	1.826	0.3582
interview1	-	roleplay	-0.403507	0.2727	Inf	-1.48	0.5757
interview2	-	narrative	6.891133	0.2988	Inf	23.061	<.0001
interview2	-	roleplay	5.956559	0.2809	Inf	21.208	<.0001
narrative	-	roleplay	-0.934574	0.2908	Inf	-3.214	0.0114

3. Contrast in Proficiency Level within a Task for Written Data

The R codes and their descriptions

```
> emm_taskef <- emmeans(ef_m13, ~ CEFR | TASK)
> pairs(emm_taskef, simple = "each", by = "TASK")
$`simple contrasts for CEFR`
Degrees-of-freedom method: kenward-roger
P value adjustment: tukey method for comparing a family of 4 estimates
```

TASK = descriptive:

contrast			estimate	SE	df	z.ratio	p.value
A2	-	B1	-0.57035	0.2604	1052	-2.19	0.1265
A2	-	B2	-0.46553	0.256	1048	-1.818	0.2652
A2	-	C1	-0.47055	0.2627	1035	-1.791	0.278
B1	-	B2	0.10483	0.073	851	1.436	0.4774
B1	-	C1	0.09981	0.0938	534	1.064	0.7119
B2	-	C1	-0.00502	0.0805	416	-0.062	0.9999

TASK = narrative:

contrast			estimate	SE	df	z.ratio	p.value
A2	-	B1	-0.31378	0.3386	1052	-0.927	0.7905
A2	-	B2	-0.26784	0.3364	1052	-0.796	0.8562
A2	-	C1	-0.2315	0.3652	1026	-0.634	0.9211
B1	-	B2	0.04594	0.1514	1051	0.303	0.9903
B1	-	C1	0.08227	0.2077	848	0.396	0.9789
B2	-	C1	0.03634	0.2041	858	0.178	0.998

TASK = speech act:

contrast			estimate	SE	df	z.ratio	p.value
A2	-	B1	0.10742	0.2495	1052	0.431	0.9732
A2	-	B2	-0.64479	0.2446	1051	-2.636	0.0423
A2	-	C1	-0.6484	0.2605	1029	-2.489	0.0621
B1	-	B2	-0.75221	0.091	1043	-8.27	<.0001
B1	-	C1	-0.75582	0.1276	766	-5.921	<.0001
B2	-	C1	-0.00362	0.1176	763	-0.031	1

4. Task Contrast per Proficiency Level in Written Data

Description of the analysis in R

\$`simple contrasts for TASK`
 Degrees-of-freedom method: kenward-roger
 P value adjustment: tukey method for comparing a family of 3 estimates

CEFR = A2:

contrast			estimate	SE	df	z.ratio	p.value
descriptive	-	narrative	-0.00057	0.4079	1052	-0.001	1
descriptive	-	speech act	-0.31199	0.3476	1051	-0.898	0.642
narrative	-	speech act	-0.31142	0.3989	1044	-0.781	0.7149

CEFR = B1:

contrast			estimate	SE	df	z.ratio	p.value
descriptive	-	narrative	0.256004	0.1265	1048	2.024	0.1069
descriptive	-	speech act	0.365779	0.0955	1046	3.83	0.0004
narrative	-	speech act	0.109774	0.1324	1049	0.829	0.6851

CEFR = B2:

contrast			estimate	SE	df	z.ratio	p.value
descriptive	-	narrative	0.197117	0.11	984	1.792	0.1728
descriptive	-	speech act	-0.49125	0.0662	1050	-7.417	<.0001
narrative	-	speech act	-0.68837	0.1165	1026	-5.909	<.0001

CEFR = C1:

contrast			estimate	SE	df	z.ratio	p.value
descriptive	-	narrative	0.238473	0.1879	1030	1.269	0.413
descriptive	-	speech act	-0.48985	0.1243	1029	-3.942	0.0003
narrative	-	speech act	-0.72832	0.2027	1052	-3.593	0.001

Appendix C: Results of post hoc tests

The effect size is quantified using the rank biserial correlation coefficient (r), with confidence intervals (CI).

Results of post hoc test for spoken data

Pair	p.value	r	CI
Lv4 - Lv5	<.001*	.33	[0.25, 0.41]
Lv4 - Lv6	<.001*	.74	[0.68, 0.79]
Lv4 - Lv7	<.001*	.85	[0.81, 0.89]
Lv4 - Lv8	<.001*	.86	[0.82, 0.90]
Lv4 - Lv9	<.001*	.97	[0.96, 0.98]
Lv5 - Lv6	<.001*	.46	[0.36, 0.55]
Lv5 - Lv7	<.001*	.64	[0.55, 0.74]
Lv5 - Lv8	<.001*	.66	[0.54, 0.74]
Lv5 - Lv9	<.001*	.85	[0.79, 0.90]
Lv6 - Lv7	.044*	.25	[0.09, 0.39]
Lv6 - Lv8	.018*	.3	[0.13, 0.45]
Lv6 - Lv9	<.001*	.61	[0.46, 0.72]
Lv7 - Lv8	1.000	.08	[-0.12, 0.27]
Lv7 - Lv9	.004*	.41	[0.21, 0.58]
Lv8 - Lv9	.103	.32	[0.10, 0.52]

Results of post hoc test for written data

pair	p.value	r	CI
A1-A2	<.001*	.13	[0.08, 0.17]
A1-B1	<.001*	.1	[0.05, 0.14]
A1-B2	<.001*	.21	[0.14, 0.28]
A1-C1	.001*	.3	[0.14, 0.44]
A2-B1	1.000	-0.04	[-0.09, 0.01]
A2-B2	1.000	.06	[-0.02, 0.14]
A2-C1	.548	.15	[-0.01, 0.31]
B1-B2	.069	.11	[0.03, 0.19]
B1-C1	.114	.2	[0.04, 0.36]
B2-C1	1.000	.11	[-0.07, 0.27]